

FIG. 1

THE UNIVERSITY OF CHICAGO

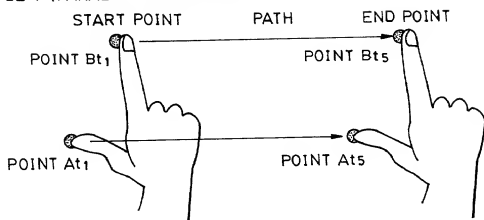


FIG. 2A

### EXAMPLE 2 (INWARD DIRECTION)

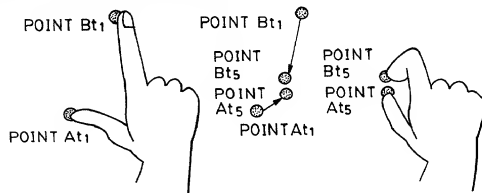


FIG. 2B

### EXAMPLE 3 (OUTWARD DIRECTION)

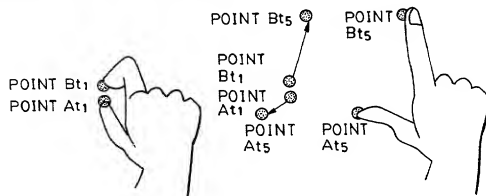


FIG. 2C

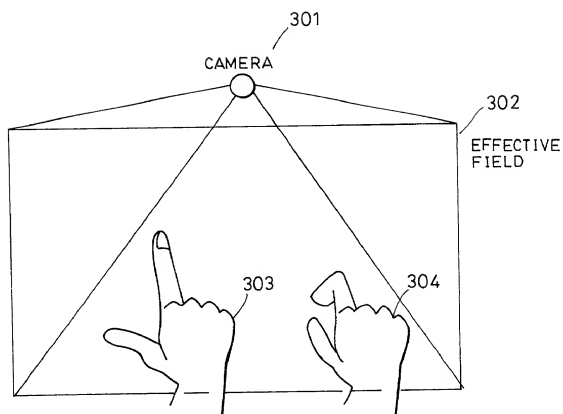


FIG. 3

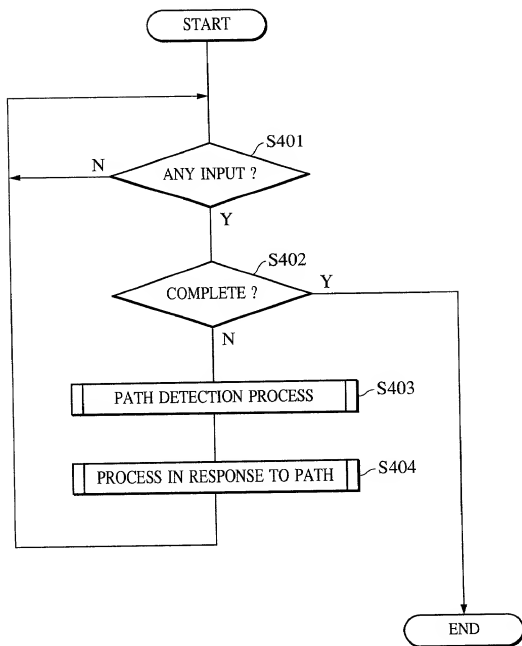


FIG. 4

START

DESIGNATED POSITION  
DETECTION PROCESS S501

COMBINATION  
DETERMINATION PROCESS S502

DESIGNATED POSITION  
STORAGE PROCESS S503

END

FIG. 5

```

graph TD
    START([START]) --> A[A]
    A --> B[B]
    B --> C[C]
    C --> D[D]
    D --> E[E]
    E --> F[F]
    F --> G[G]
    G --> H[H]
    H --> I[I]
    I --> J[J]
    J --> K[K]
    K --> L[L]
    L --> M[M]
    M --> N[N]
    N --> O[O]
    O --> P[P]
    P --> Q[Q]
    Q --> R[R]
    R --> S[S]
    S --> T[T]
    T --> U[U]
    U --> V[V]
    V --> W[W]
    W --> X[X]
    X --> Y[Y]
    Y --> Z[Z]
    Z --> AA[AA]
    AA --> AB[AB]
    AB --> AC[AC]
    AC --> AD[AD]
    AD --> AE[AE]
    AE --> AF[AF]
    AF --> AG[AG]
    AG --> AH[AH]
    AH --> AI[AI]
    AI --> AJ[AJ]
    AJ --> AK[AK]
    AK --> AL[AL]
    AL --> AM[AM]
    AM --> AN[AN]
    AN --> AO[AO]
    AO --> AP[AP]
    AP --> AQ[AQ]
    AQ --> AR[AR]
    AR --> AS[AS]
    AS --> AT[AT]
    AT --> AU[AU]
    AU --> AV[AV]
    AV --> AW[AW]
    AW --> AX[AX]
    AX --> AY[AY]
    AY --> AZ[AZ]
    AZ --> BA[BA]
    BA --> BB[BB]
    BB --> BC[BC]
    BC --> BD[BD]
    BD --> BE[BE]
    BE --> BF[BF]
    BF --> BG[BG]
    BG --> BH[BH]
    BH --> BI[BI]
    BI --> BJ[BJ]
    BJ --> BK[BK]
    BK --> BL[BL]
    BL --> BM[BM]
    BM --> BN[BN]
    BN --> BO[BO]
    BO --> BP[BP]
    BP --> BQ[BQ]
    BQ --> BR[BR]
    BR --> BS[BS]
    BS --> BT[BT]
    BT --> BU[BU]
    BU --> BV[BV]
    BV --> BW[BW]
    BW --> BX[BX]
    BX --> BY[BY]
    BY --> BZ[BZ]
    BZ --> CA[CA]
    CA --> CB[CB]
    CB --> CC[CC]
    CC --> CD[CD]
    CD --> CE[CE]
    CE --> CF[CF]
    CF --> CG[CG]
    CG --> CH[CH]
    CH --> CI[CI]
    CI --> CJ[CJ]
    CJ --> CK[CK]
    CK --> CL[CL]
    CL --> CM[CM]
    CM --> CN[CN]
    CN --> CO[CO]
    CO --> CP[CP]
    CP --> CQ[CQ]
    CQ --> CR[CR]
    CR --> CS[CS]
    CS --> CT[CT]
    CT --> CU[CU]
    CU --> CV[CV]
    CV --> CW[CW]
    CW --> CX[CX]
    CX --> CY[CY]
    CY --> CZ[CZ]
    CZ --> DA[DA]
    DA --> DB[DB]
    DB --> DC[DC]
    DC --> DD[DD]
    DD --> DE[DE]
    DE --> DF[DF]
    DF --> DG[DG]
    DG --> DH[DH]
    DH --> DI[DI]
    DI --> DJ[DJ]
    DJ --> DK[DK]
    DK --> DL[DL]
    DL --> DM[DM]
    DM --> DN[DN]
    DN --> DO[DO]
    DO --> DP[DP]
    DP --> DQ[DQ]
    DQ --> DR[DR]
    DR --> DS[DS]
    DS --> DT[DT]
    DT --> DU[DU]
    DU --> DV[DV]
    DV --> DW[DW]
    DW --> DX[DX]
    DX --> DY[DY]
    DY --> DZ[DZ]
    DZ --> EA[EA]
    EA --> EB[EB]
    EB --> EC[EC]
    EC --> ED[ED]
    ED --> EE[EE]
    EE --> EF[EF]
    EF --> EG[EG]
    EG --> EH[EH]
    EH --> EI[EI]
    EI --> EJ[EJ]
    EJ --> EK[EK]
    EK --> EL[EL]
    EL --> EM[EM]
    EM --> EN[EN]
    EN --> EO[EO]
    EO --> EP[EP]
    EP --> EQ[EQ]
    EQ --> ER[ER]
    ER --> ES[ES]
    ES --> ET[ET]
    ET --> EU[EU]
    EU --> EV[EV]
    EV --> EW[EW]
    EW --> EX[EX]
    EX --> EY[EY]
    EY --> EZ[EZ]
    EZ --> FA[FA]
    FA --> FB[FB]
    FB --> FC[FC]
    FC --> FD[FD]
    FD --> FE[FE]
    FE --> FF[FF]
    FF --> FG[FG]
    FG --> FH[FH]
    FH --> FI[FI]
    FI --> FJ[FJ]
    FJ --> FK[FK]
    FK --> FL[FL]
    FL --> FM[FM]
    FM --> FN[FN]
    FN --> FO[FO]
    FO --> FP[FP]
    FP --> FQ[FQ]
    FQ --> FR[FR]
    FR --> FS[FS]
    FS --> FT[FT]
    FT --> FU[FU]
    FU --> FV[FV]
    FV --> FW[FW]
    FW --> FX[FX]
    FX --> FY[FY]
    FY --> FZ[FZ]
    FZ --> GA[GA]
    GA --> GB[GB]
    GB --> GC[GC]
    GC --> GD[GD]
    GD --> GE[GE]
    GE --> GF[GF]
    GF --> GG[GG]
    GG --> GH[GH]
    GH --> GI[GI]
    GI --> GJ[GJ]
    GJ --> GK[GK]
    GK --> GL[GL]
    GL --> GM[GM]
    GM --> GN[GN]
    GN --> GO[GO]
    GO --> GP[GP]
    GP --> GQ[GQ]
    GQ --> GR[GR]
    GR --> GS[GS]
    GS --> GT[GT]
    GT --> GU[GU]
    GU --> GV[GV]
    GV --> GW[GW]
    GW --> GX[GX]
    GX --> GY[GY]
    GY --> GZ[GZ]
    GZ --> HA[HA]
    HA --> HB[HB]
    HB --> HC[HC]
    HC --> HD[HD]
    HD --> HE[HE]
    HE --> HF[HF]
    HF --> HG[HG]
    HG --> HH[HH]
    HH --> HI[HI]
    HI --> HJ[HJ]
    HJ --> HK[HK]
    HK --> HL[HL]
    HL --> HM[HM]
    HM --> HN[HN]
    HN --> HO[HO]
    HO --> HP[HP]
    HP --> HQ[HQ]
    HQ --> HR[HR]
    HR --> HS[HS]
    HS --> HT[HT]
    HT --> HU[HU]
    HU --> HV[HV]
    HV --> HW[HW]
    HW --> HX[HX]
    HX --> HY[HY]
    HY --> HZ[HZ]
    HZ --> IA[IA]
    IA --> IB[IB]
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    IC --> ID[ID]
    ID --> IE[IE]
    IE --> IF[IF]
    IF --> IG[IG]
    IG --> IH[IH]
    IH --> II[II]
    II --> IJ[IJ]
    IJ --> IK[IK]
    IK --> IL[IL]
    IL --> IM[IM]
    IM --> IN[IN]
    IN --> IO[IO]
    IO --> IP[IP]
    IP --> IQ[IQ]
    IQ --> IR[IR]
    IR --> IS[IS]
    IS --> IT[IT]
    IT --> IU[IU]
    IU --> IV[IV]
    IV --> IW[IW]
    IW --> IX[IX]
    IX --> IY[IY]
    IY --> IZ[IZ]
    IZ --> JA[JA]
    JA --> JB[JB]
    JB --> JC[JC]
    JC --> JD[JD]
    JD --> JE[JE]
    JE --> JF[JF]
    JF --> JG[JG]
    JG --> JH[JH]
    JH --> JI[JI]
    JI --> JJ[JJ]
    JJ --> JK[JK]
    JK --> JL[JL]
    JL --> JM[JM]
    JM --> JN[JN]
    JN --> JO[JO]
    JO --> JP[JP]
    JP --> JQ[JQ]
    JQ --> JR[JR]
    JR --> JS[JS]
    JS --> JT[JT]
    JT --> JU[JU]
    JU --> JV[JV]
    JV --> JW[JW]
    JW --> JX[JX]
    JX --> JY[JY]
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    KA --> KB[KB]
    KB --> KC[KC]
    KC --> KD[KD]
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    KE --> KF[KF]
    KF --> KG[KG]
    KG --> KH[KH]
    KH --> KI[KI]
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    KJ --> KK[KK]
    KK --> KL[KL]
    KL --> KM[KM]
    KM --> KN[KN]
    KN --> KO[KO]
    KO --> KP[KP]
    KP --> KQ[KQ]
    KQ --> KR[KR]
    KR --> KS[KS]
    KS --> KT[KT]
    KT --> KU[KU]
    KU --> KV[KV]
    KV --> KW[KW]
    KW --> KX[KX]
    KX --> KY[KY]
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    KZ --> LA[LA]
    LA --> LB[LB]
    LB --> LC[LC]
    LC --> LD[LD]
    LD --> LE[LE]
    LE --> LF[LF]
    LF --> LG[LG]
    LG --> LH[LH]
    LH --> LI[LI]
    LI --> LJ[LJ]
    LJ --> LK[LK]
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    LL --> LM[LM]
    LM --> LN[LN]
    LN --> LO[LO]
    LO --> LP[LP]
    LP --> LQ[LQ]
    LQ --> LR[LR]
    LR --> LS[LS]
    LS --> LT[LT]
    LT --> LU[LU]
    LU --> LV[LV]
    LV --> LW[LW]
    LW --> LX[LX]
    LX --> LY[LY]
    LY --> LZ[LZ]
    LZ --> MA[MA]
    MA --> MB[MB]
    MB --> MC[MC]
    MC --> MD[MD]
    MD --> ME[ME]
    ME --> MF[MF]
    MF --> MG[MG]
    MG --> MH[MH]
    MH --> MI[MI]
    MI --> MJ[MJ]
    MJ --> MK[MK]
    MK --> ML[ML]
    ML --> MN[MN]
    MN --> MO[MO]
    MO --> MP[MP]
    MP --> MQ[MQ]
    MQ --> MR[MR]
    MR --> MS[MS]
    MS --> MT[MT]
    MT --> MU[MU]
    MU --> MV[MV]
    MV --> MW[MW]
    MW --> MX[MX]
    MX --> MY[MY]
    MY --> MZ[MZ]
    MZ --> NA[NA]
    NA --> NB[NB]
    NB --> NC[NC]
    NC --> ND[ND]
    ND --
```

DETERMINE DISTANCE BETWEEN  
CURRENT DESIGNATED POSITION  
AND IMMEDIATELY PRECEDING  
DESIGNATED POSITION

S601

DETERMINE COMBINATION OF  
CURRENT DESIGNATED  
POSITION AND IMMEDIATELY  
PRECEDING DESIGNATED POSITION  
CLOSEST IN DISTANCE TO THE  
CURRENT DESIGNATED POSITION

-S602

ANY COMBINATION  
PRESENT ?

N

Y

ADD CURRENT DESIGNATED  
POSITION TO TABLE OF  
IMMEDIATELY PRECEDING  
DESIGNATED POSITIONS

S604

```

graph TD
    END([END])
  
```

FIG. 6

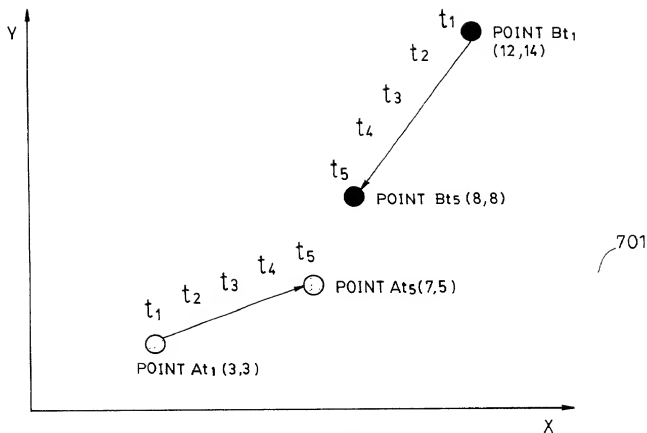


TABLE STORING POSITION DATA

POSITION COORDINATE  
DATA AT POINT A

	X	Y
t <sub>1</sub>	3	3
t <sub>2</sub>	4	3.5
t <sub>3</sub>	5	4
t <sub>4</sub>	6	4.5
t <sub>5</sub>	7	5

FIG. 7B

POSITION COORDINATE  
DATA AT POINT B

	X	Y
t <sub>1</sub>	12	14
t <sub>2</sub>	11	12.5
t <sub>3</sub>	10	11
t <sub>4</sub>	9	10
t <sub>5</sub>	8	9

FIG. 7C

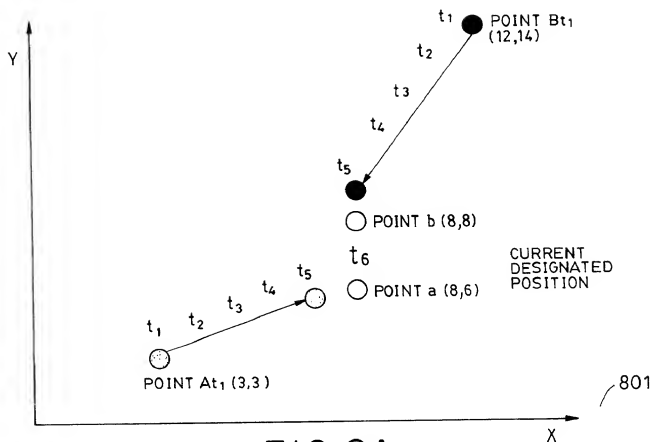


FIG. 8A

CURRENT DESIGNATED  
 POSITION DATA (AT t<sub>6</sub>)

	X	Y
a	8	6
b	8	8

802

FIG. 8B



CURRENT DESIGNATED  
POSITION DATA

	X	Y
a	8	6
b	8	8

901

FIG. 9A



DISTANCE TO IMMEDIATELY PRECEDING DESIGNATED POSITION

	X	Y	DISTANCE TO DESIGNATED POSITION A	DISTANCE TO DESIGNATED POSITION B
a	8	6	1.414	4.123
b	8	8	3.601	1.000

902

FIG. 9B



DESIGNATED POSITION DATA  
AT EACH TIME POINT

	X	Y
t <sub>1</sub>	3	3
t <sub>2</sub>	4	3.5
t <sub>3</sub>	5	4
t <sub>4</sub>	6	4.5
t <sub>5</sub>	7	5
t <sub>6</sub>	8	6

903

FIG. 9C

	X	Y
t <sub>1</sub>	12	14
t <sub>2</sub>	11	12.5
t <sub>3</sub>	10	11
t <sub>4</sub>	9	10
t <sub>5</sub>	8	9
t <sub>6</sub>	8	8

904

FIG. 9D

START

DESIGNATED AREA  
DETECTION PROCESS S1001

COMBINATION  
DETERMINATION PROCESS S1002

DESIGNATED AREA  
STORAGE PROCESS S1003

END

FIG. 10

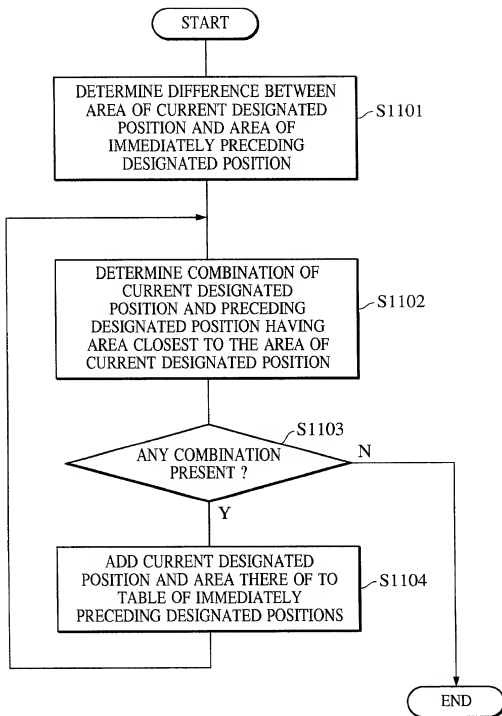


FIG. 11

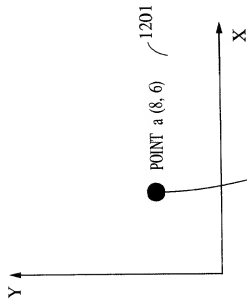


FIG. 12A

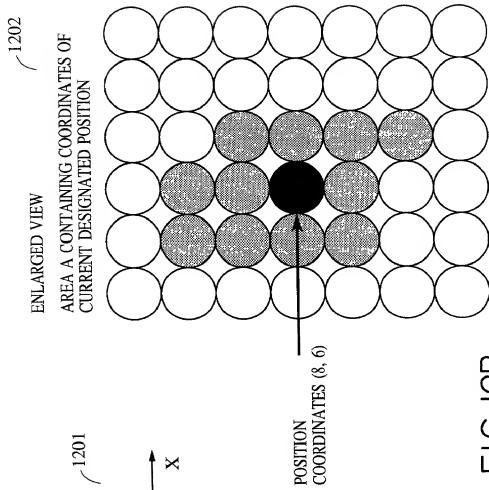
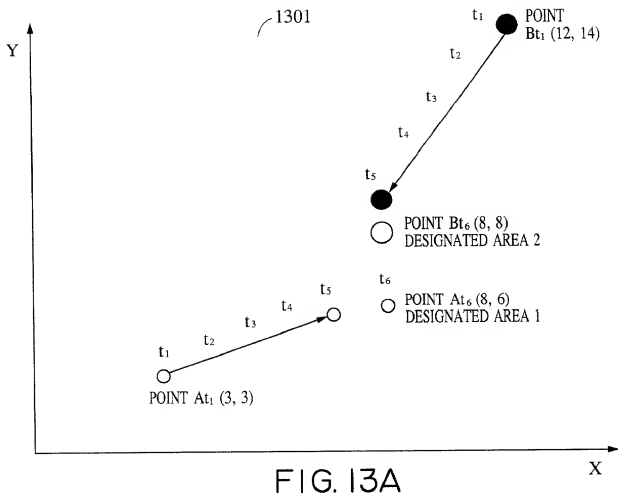


FIG. 12B



TABLES STORING DESIGNATED AREA DATA

AREA DATA AT POINT A 1302

	X	Y	AREA
t <sub>1</sub>	3	3	12.5
t <sub>2</sub>	4	3.5	12.2
t <sub>3</sub>	5	4	12.5
t <sub>4</sub>	6	4.5	12.0
t <sub>5</sub>	7	5	11.0

FIG. 13B

AREA DATA AT POINT B 1303

	X	Y	AREA
t <sub>1</sub>	12	14	19.5
t <sub>2</sub>	11	12.5	19.5
t <sub>3</sub>	10	11	20.0
t <sub>4</sub>	9	10	20.0
t <sub>5</sub>	8	9	20.0

FIG. 13C

CURRENT DESIGNATED AREA DATA (AT t<sub>6</sub>)

1304

	X	Y	AREA
a	8	6	11.5
b	8	8	20.0

FIG. 13D

CURRENT AREA DATA (AT  $t_6$ ) 1401

	X	Y	AREA
a	8	6	11.5
b	8	8	20.0

FIG. 14A

DIFFERENCE BETWEEN CURRENT AND IMMEDIATELY PRECEDING DESIGNATED AREAS 1402

	X	Y	AREA	DIFFERENCE FROM DESIGNATED AREA A	DIFFERENCE FROM DESIGNATED AREA B
a	8	6	11.5	0.5	9.0
b	8	8	20.0	9.0	0.5

FIG. 14B

TABLES STORING DESIGNATED AREA DATA

1403

	X	Y	AREA
$t_1$	3	3	12.5
$t_2$	4	3.5	12.2
$t_3$	5	4	12.5
$t_4$	6	4.5	12.0
$t_5$	7	5	11.0
$t_6$	8	6	11.5

FIG. 14C

1404

	X	Y	AREA
$t_1$	12	14	19.5
$t_2$	11	12.5	19.5
$t_3$	10	11	20.0
$t_4$	9	10	20.0
$t_5$	8	9	20.0
$t_6$	8	8	20.5

FIG. 14D

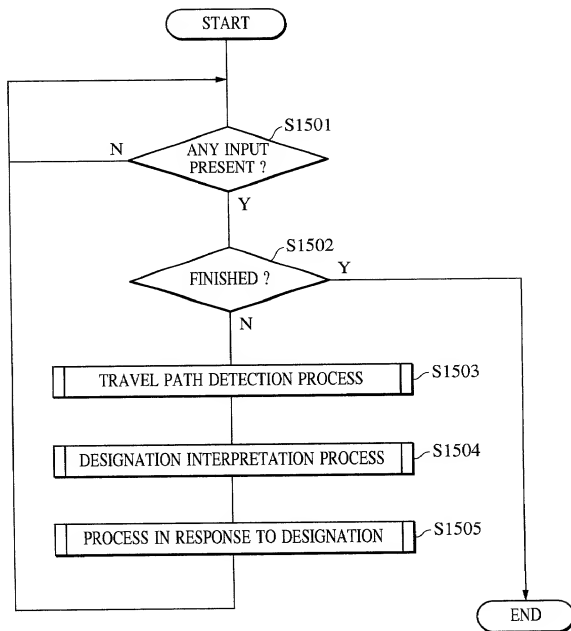


FIG. 15

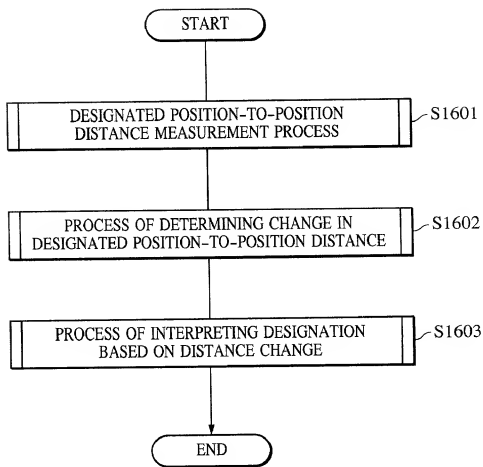
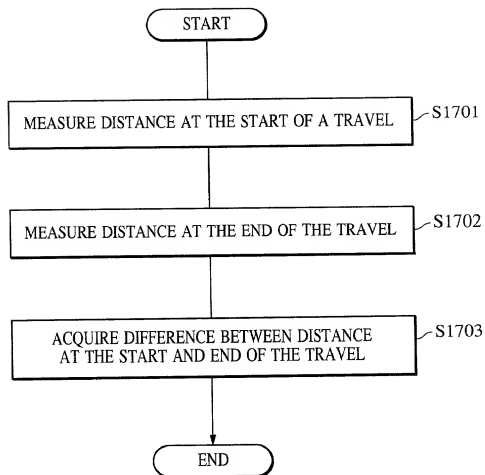


FIG. 16





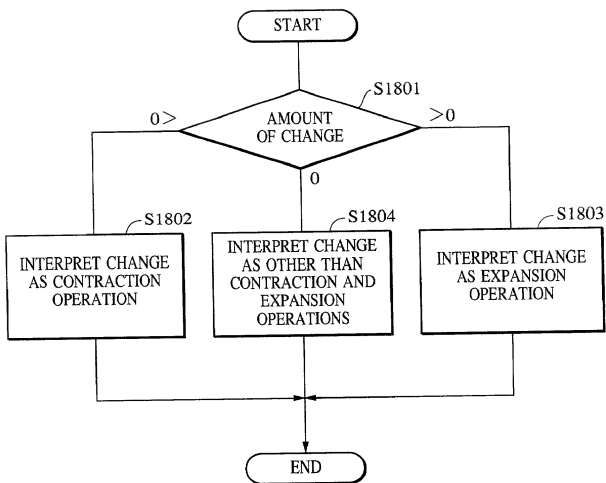
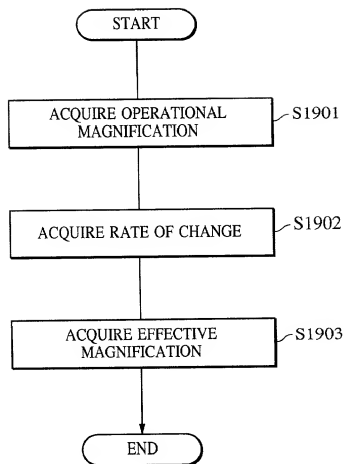


FIG. 18



$$\text{EFFECTIVE MAGNIFICATION} = 100 - (100 - \text{OPERATIONAL MAGNIFICATION}) \times \text{RATE OF CHANGE } \alpha$$

FIG. 19

CONTRACTION OPERATION

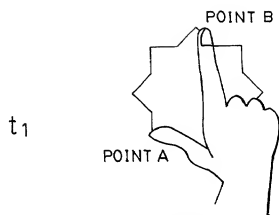


FIG. 20A

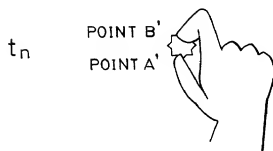


FIG. 20B

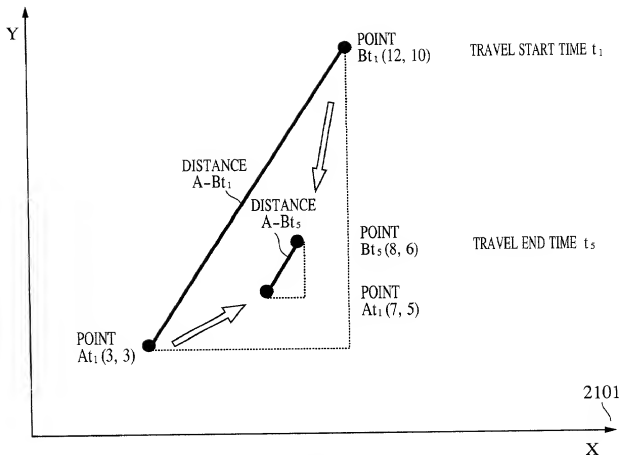


FIG. 21A

DISTANCE BETWEEN DESIGNATED POSITIONS A AND B,  
AND AMOUNT OF CHANGE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>n</sub> /DISTANCE t <sub>1</sub> )
t <sub>1</sub>	15.000	100%
t <sub>2</sub>	11.011	73%
t <sub>3</sub>	7.810	52%
t <sub>4</sub>	3.905	26%
t <sub>5</sub>	1.118	7%

2102

FIG. 21B

EXPANSION OPERATION

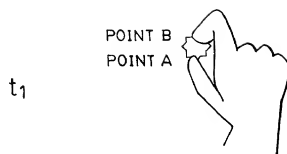


FIG. 22A

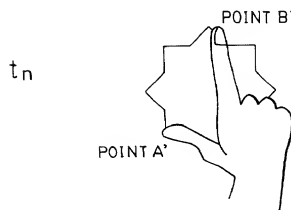


FIG. 22B

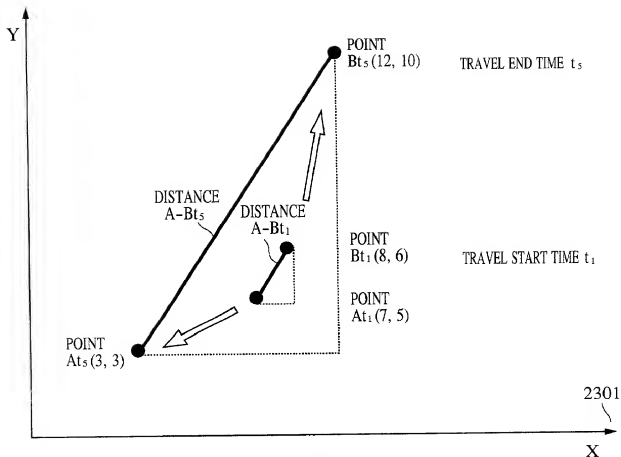


FIG. 23A

DISTANCE BETWEEN DESIGNATED POSITIONS A AND B,  
AND AMOUNT OF CHANGE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE $t_a$ /DISTANCE $t_1$ )
$t_1$	1.118	100%
$t_2$	4.081	365%
$t_3$	7.080	633%
$t_4$	9.552	854%
$t_5$	11.402	1020%

2302

FIG. 23B

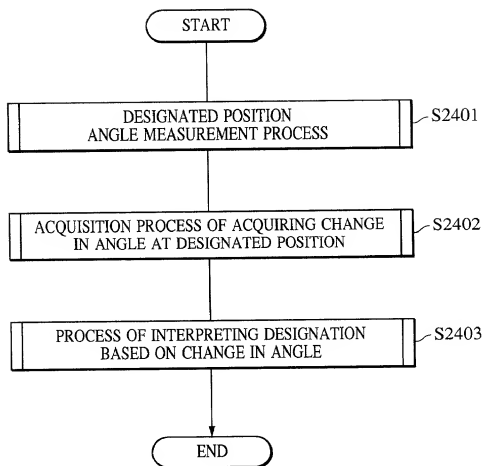


FIG. 24



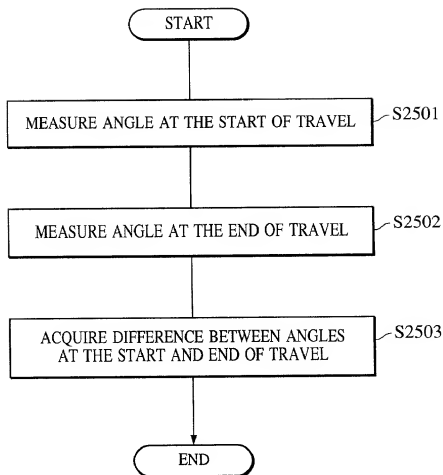


FIG. 25

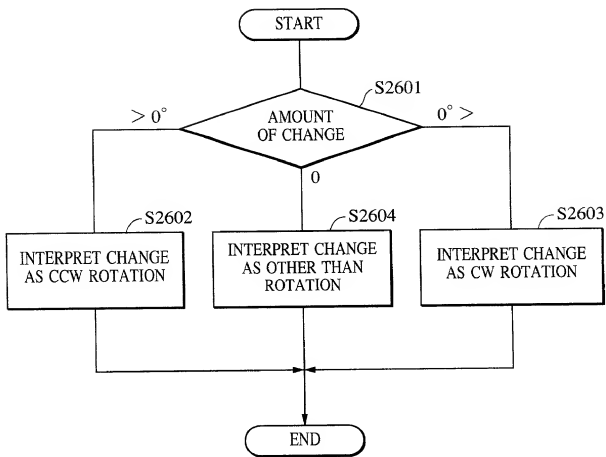


FIG. 26

CW ROTATION

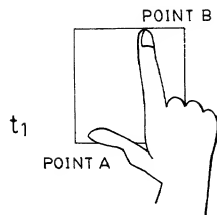


FIG. 27A

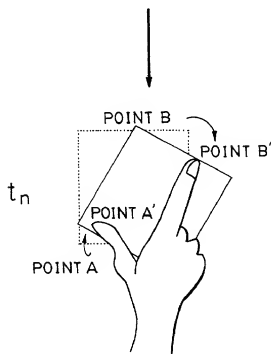
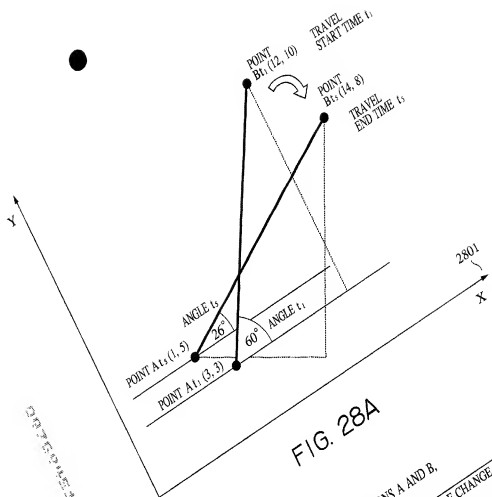


FIG. 27B



ANGLE OF DESIGNATED POSITIONS A AND B,  
AND AMOUNT OF CHANGE

	ANGLE OF LINE AB	AMOUNT OF CHANGE ( $t_2 - t_1$ )
$t_1$	60	0
$t_2$	49	-11
$t_3$	40	-20
$t_4$	33	-27
$t_5$	26	-34

FIG. 28B

2802

CCW ROTATION

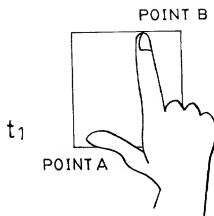


FIG. 29A

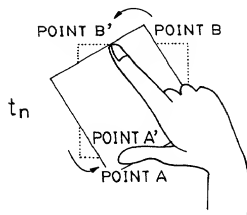


FIG. 29B

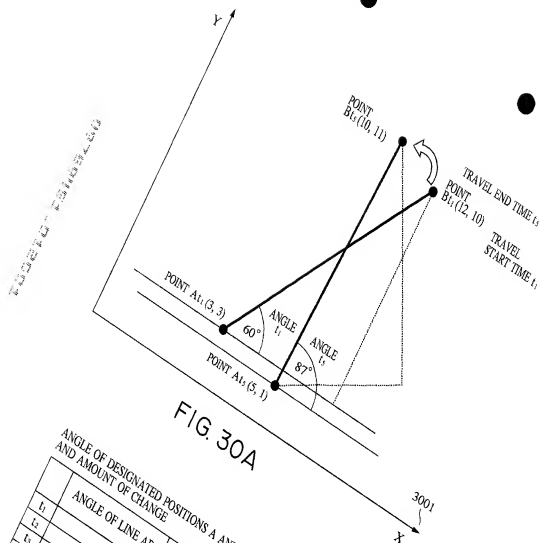


FIG. 30A

ANGLE OF DESIGNATED POSITIONS A AND B,  
AND AMOUNT OF CHANGE

	ANGLE OF LINE AB	AMOUNT OF CHANGE ( $t_2 - t_1$ )
$t_1$	60	0
$t_2$	65	5
$t_3$	70	10
$t_4$	80	20
$t_5$	87	27

3002

FIG. 30B

0759451-013601  
105270-1346370

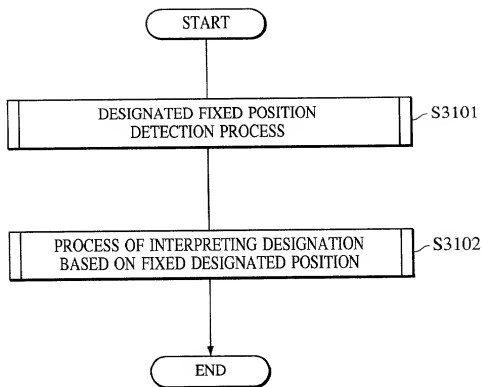


FIG. 31

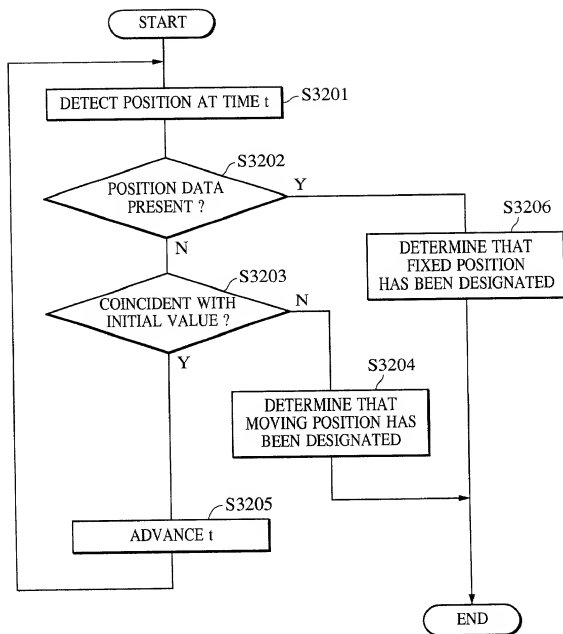


FIG. 32



10520-546200

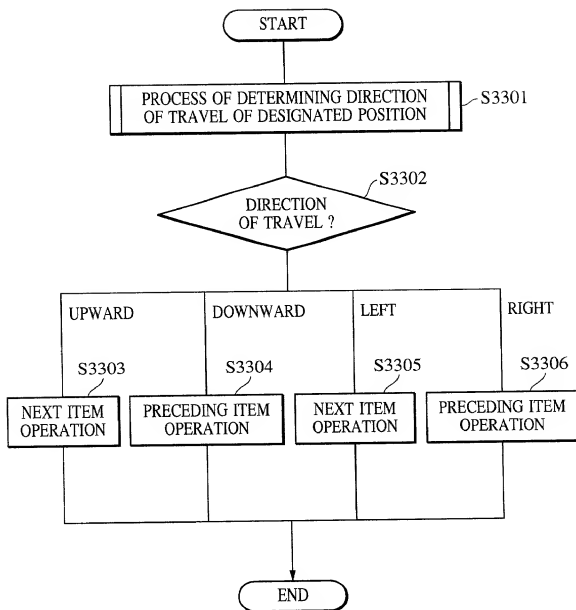


FIG. 33

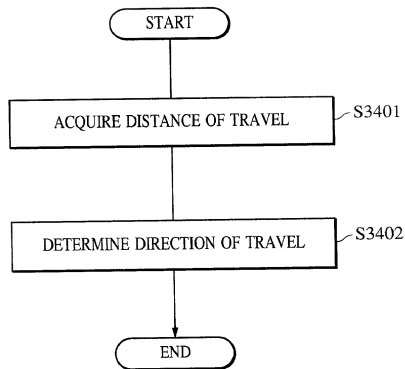


FIG. 34

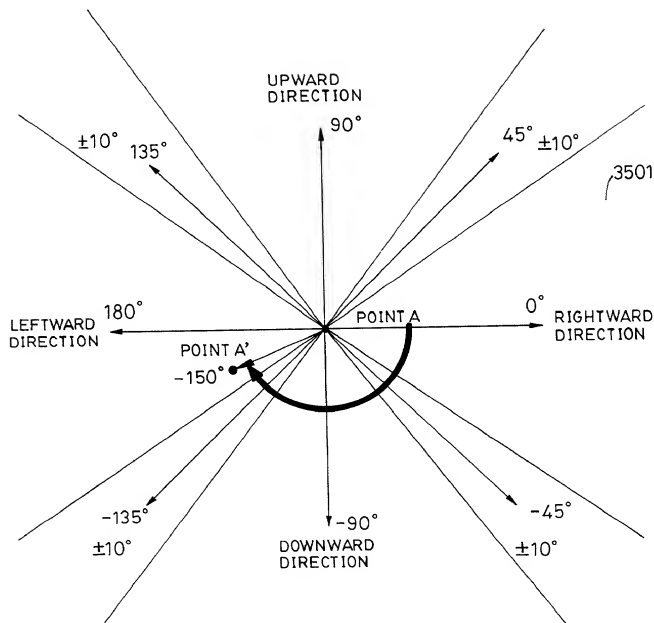


FIG. 35

LEFTWARD TRAVEL

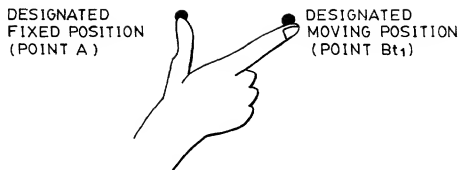


FIG. 36A

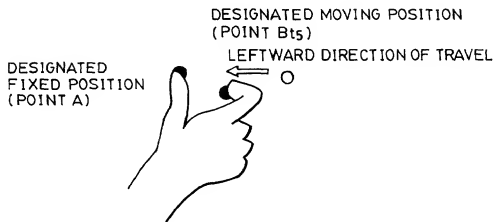


FIG. 36B

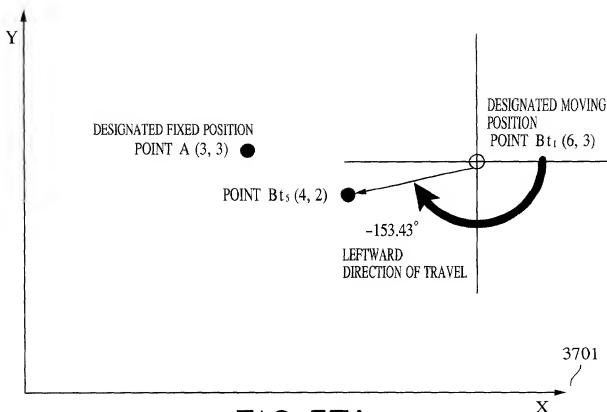


FIG. 37A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 37B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	6.0	3.0
t <sub>2</sub>	5.3	2.3
t <sub>3</sub>	4.7	1.7
t <sub>4</sub>	4.3	1.2
t <sub>5</sub>	4.0	2.0

FIG. 37C

DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL (DEGREES)
t <sub>1</sub>	0.000	0.000	-153.43
t <sub>2</sub>	0.000	0.000	-153.43
t <sub>3</sub>	0.000	1.862	-153.43
t <sub>4</sub>	0.000	2.453	-153.43
t <sub>5</sub>	0.000	2.236	153.43

FIG. 37D

UPWARD TRAVEL

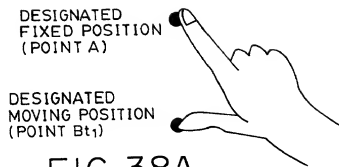


FIG. 38A

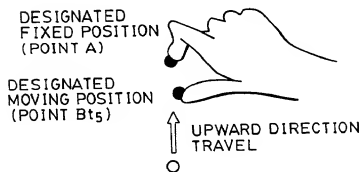


FIG. 38B

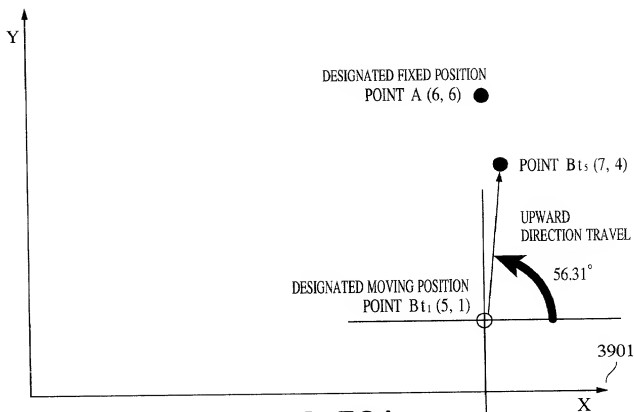


FIG. 39A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	6	6
t <sub>2</sub>	6	6
t <sub>3</sub>	6	6
t <sub>4</sub>	6	6
t <sub>5</sub>	6	6

FIG. 39B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	1.0
t <sub>2</sub>	5.6	1.8
t <sub>3</sub>	6.0	2.3
t <sub>4</sub>	6.6	3.5
t <sub>5</sub>	7.0	4.0

FIG. 39C

DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
t <sub>1</sub>	0.000	0.000	0.00
t <sub>2</sub>	0.000	1.000	53.13
t <sub>3</sub>	0.000	1.640	52.43
t <sub>4</sub>	0.000	2.968	57.38
t <sub>5</sub>	0.000	3.606	56.31

FIG. 39D

DOWNWARD TRAVEL

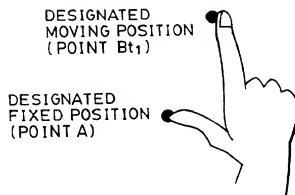


FIG. 40A

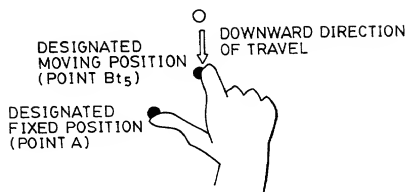


FIG. 40B



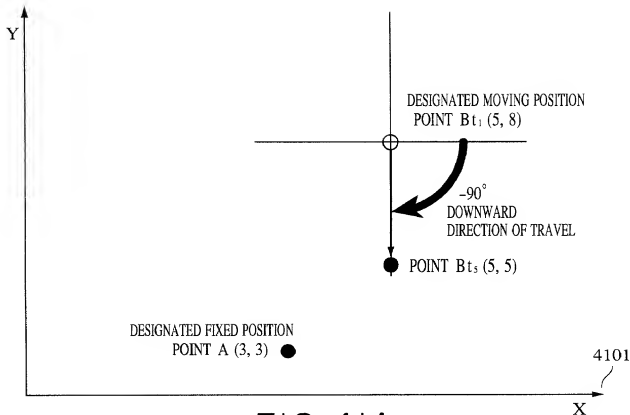


FIG. 41A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	3	3
$t_2$	3	3
$t_3$	3	3
$t_4$	3	3
$t_5$	3	3

FIG. 41B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	5.0	8.0
$t_2$	5.0	7.2
$t_3$	5.0	6.5
$t_4$	5.0	5.6
$t_5$	5.0	5.0

4102

FIG. 41C

DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
$t_1$	0.000	0.000	0.00
$t_2$	0.000	0.800	-90.00
$t_3$	0.000	1.500	-90.00
$t_4$	0.000	2.400	-90.00
$t_5$	0.000	3.000	-90.00

4103

FIG. 41D

RIGHTWARD TRAVEL

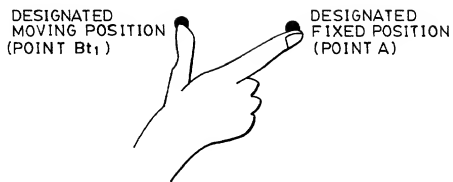


FIG. 42A

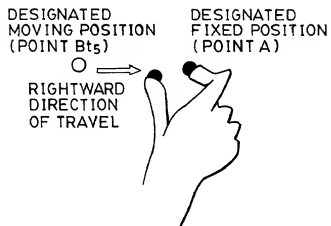


FIG. 42B

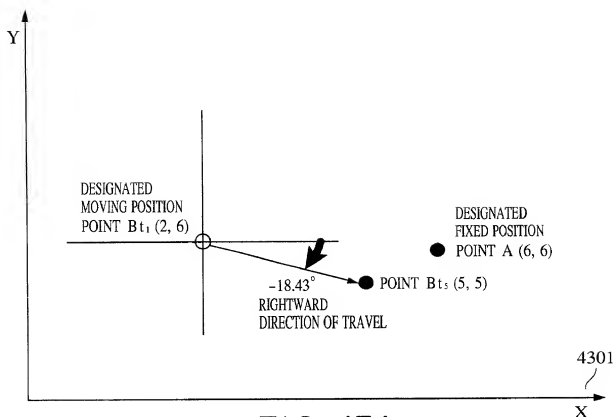


FIG. 43A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	6	6
t <sub>2</sub>	6	6
t <sub>3</sub>	6	6
t <sub>4</sub>	6	6
t <sub>5</sub>	6	6

FIG. 43B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	2.0	6.0
t <sub>2</sub>	2.8	5.7
t <sub>3</sub>	3.5	5.6
t <sub>4</sub>	4.2	5.2
t <sub>5</sub>	5.0	5.0

FIG. 43C

DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
t <sub>1</sub>	0.000	0.000	0.00
t <sub>2</sub>	0.000	4.892	-40.86
t <sub>3</sub>	0.000	4.383	-34.78
t <sub>4</sub>	0.000	3.672	-29.36
t <sub>5</sub>	0.000	3.162	-18.43

FIG. 43D

START

DESIGNATED POSITION-TO-POSITION  
MEASUREMENT PROCESS S4401

PROCESS OF ACQUIRING CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE S4402

PROCESS OF INTERPRETING DESIGNATION  
BASED ON CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE S4403

END

FIG. 44

0075451 010601  
202510-1546260

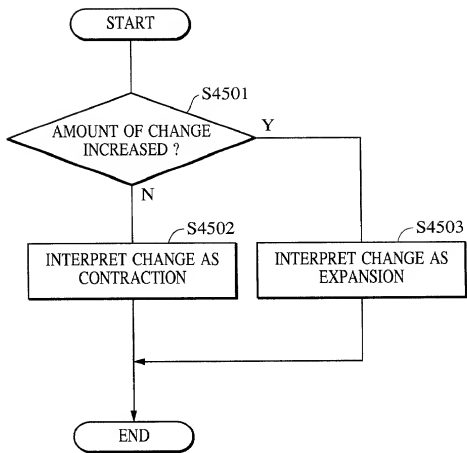


FIG. 45

CONTRACTION OPERATION

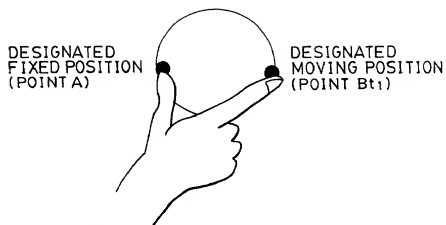


FIG. 46A

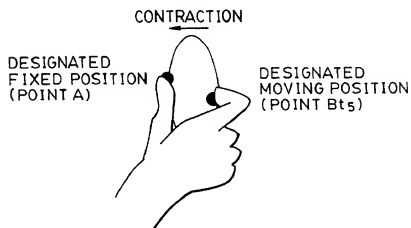


FIG. 46B

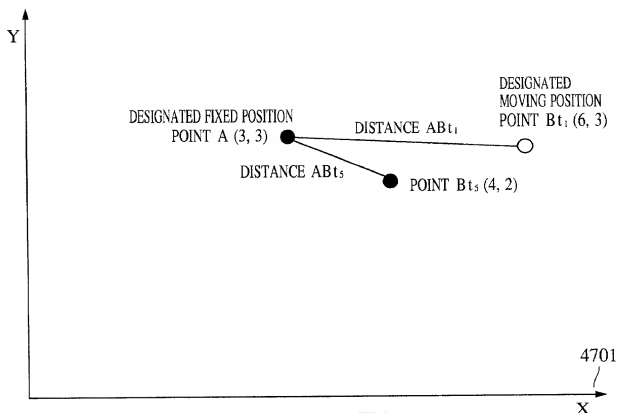


FIG. 47A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	3	3
$t_2$	3	3
$t_3$	3	3
$t_4$	3	3
$t_5$	3	3

FIG. 47B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	6.0	3.0
$t_2$	5.3	2.3
$t_3$	4.7	1.7
$t_4$	4.3	1.2
$t_5$	4.0	2.0

FIG. 47C

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE 4703

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE $t_5$ / DISTANCE $t_1$ )	DISTANCE $t_5$ / DISTANCE $t_1$
$t_1$	3.000	100%	0.000
$t_2$	2.436	81%	-0.564
$t_3$	2.114	70%	-0.886
$t_4$	2.240	75%	-0.760
$t_5$	1.414	47%	-1.586

FIG. 47D

EXPANSION OPERATION

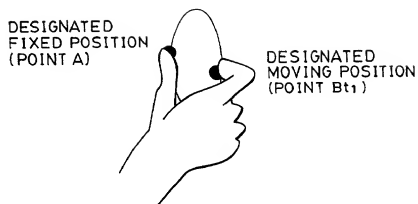


FIG. 48A



EXPANDED

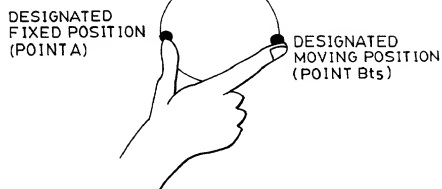


FIG. 48B



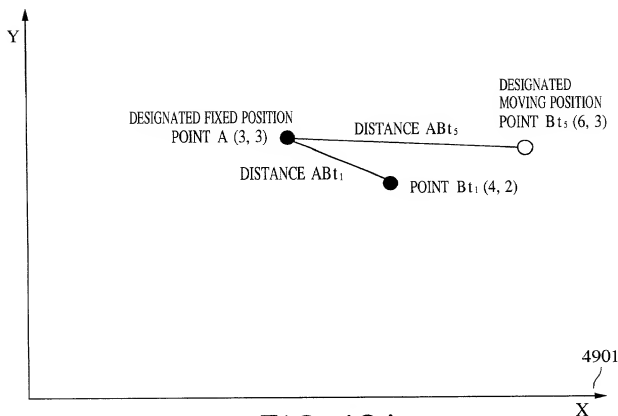


FIG. 49A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 49B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	2.0
t <sub>2</sub>	4.5	2.2
t <sub>3</sub>	5.2	2.5
t <sub>4</sub>	5.8	2.8
t <sub>5</sub>	6.0	3.0

4902

FIG. 49C

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>a</sub> / DISTANCE t <sub>1</sub> )
t <sub>1</sub>	1.414	100%
t <sub>2</sub>	1.700	120%
t <sub>3</sub>	2.256	160%
t <sub>4</sub>	2.807	198%
t <sub>5</sub>	3.000	212%

4903

FIG. 49D

CONTRACTION OPERATION

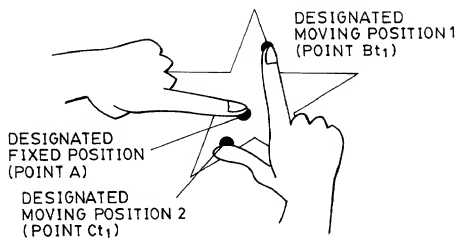


FIG. 50A

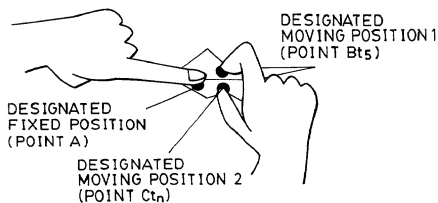


FIG. 50B

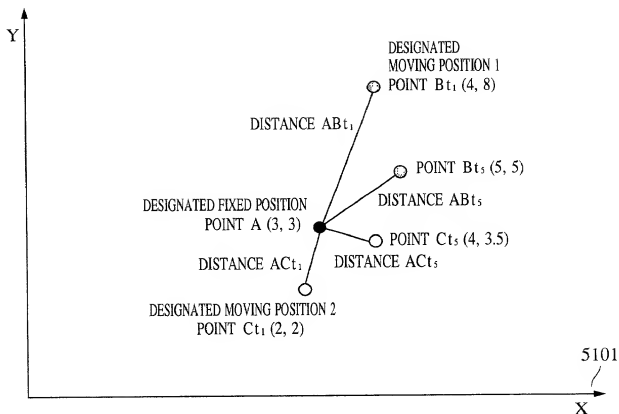


FIG. 51A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

DESIGNATED MOVING POSITION I  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	8.0
t <sub>2</sub>	4.2	7.2
t <sub>3</sub>	4.4	6.3
t <sub>4</sub>	4.7	5.8
t <sub>5</sub>	5.0	5.0

DESIGNATED MOVING POSITION 2  
POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	2.0	2.0
t <sub>2</sub>	2.8	2.3
t <sub>3</sub>	3.4	2.8
t <sub>4</sub>	3.8	3.3
t <sub>5</sub>	4.0	3.5

5102

FIG. 51B

FIG. 51C

FIG. 51D

DATA 1 OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN A AND B (DISTANCE t <sub>a</sub> / DISTANCE t <sub>1</sub> )	MAGNIFICATION
t <sub>1</sub>	5.099	100%
t <sub>2</sub>	4.368	86%
t <sub>3</sub>	3.585	70%
t <sub>4</sub>	3.276	64%
t <sub>5</sub>	2.828	55%

DATA 2 OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN A AND B (DISTANCE t <sub>a</sub> / DISTANCE t <sub>1</sub> )	MAGNIFICATION
t <sub>1</sub>	1.414	100%
t <sub>2</sub>	0.728	51%
t <sub>3</sub>	0.447	32%
t <sub>4</sub>	0.854	60%
t <sub>5</sub>	1.118	79%

5103

FIG. 51E

FIG. 51F

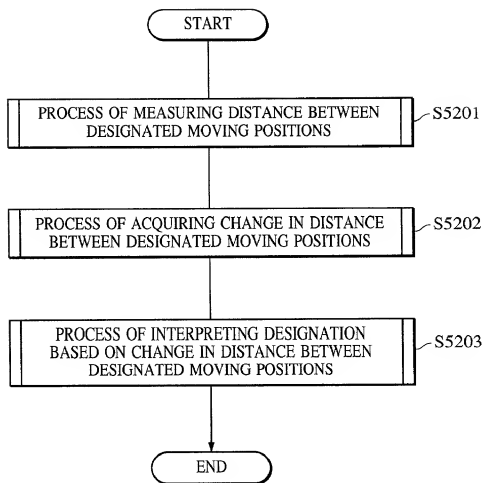


FIG. 52

0076441-040600

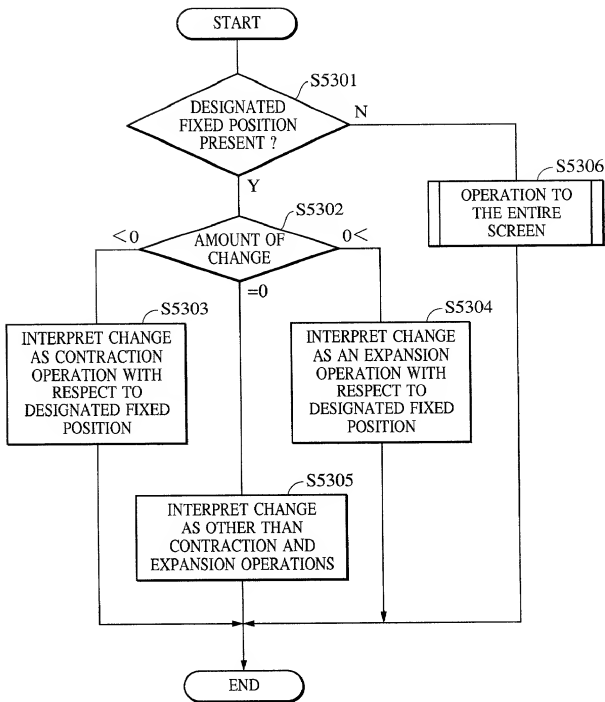


FIG. 53

CONTRACTION OPERATION

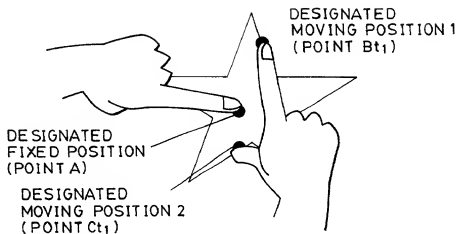


FIG. 54A

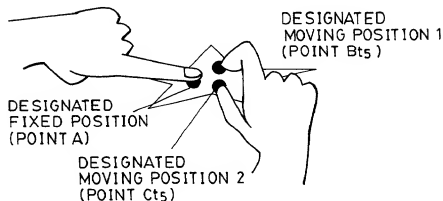


FIG. 54B

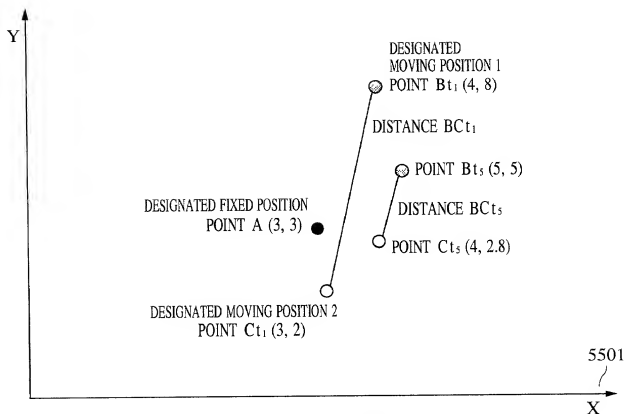


FIG. 55A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	3	3
$t_2$	3	3
$t_3$	3	3
$t_4$	3	3
$t_5$	3	3

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	4.0	8.0
$t_2$	4.2	7.2
$t_3$	4.4	6.3
$t_4$	4.7	5.8
$t_5$	5.0	5.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

	$C_x$	$C_y$
$t_1$	3.0	2.0
$t_2$	3.2	2.2
$t_3$	3.4	2.4
$t_4$	3.8	2.6
$t_5$	4.0	2.8

FIG. 55B

FIG. 55C

FIG. 55D

DATA OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND C	MAGNIFICATION (DISTANCE $t_5$ / DISTANCE $t_1$ )
$t_1$	6.083	100%
$t_2$	5.099	84%
$t_3$	4.026	66%
$t_4$	3.324	55%
$t_5$	2.417	40%

FIG. 55E



CONTRACTION OPERATION

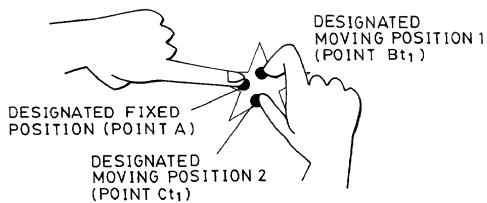


FIG. 56A

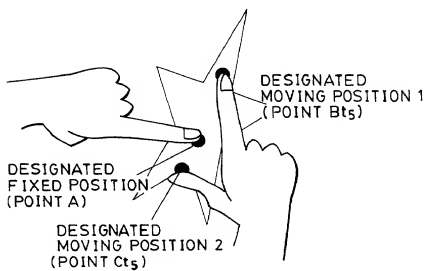


FIG. 56B

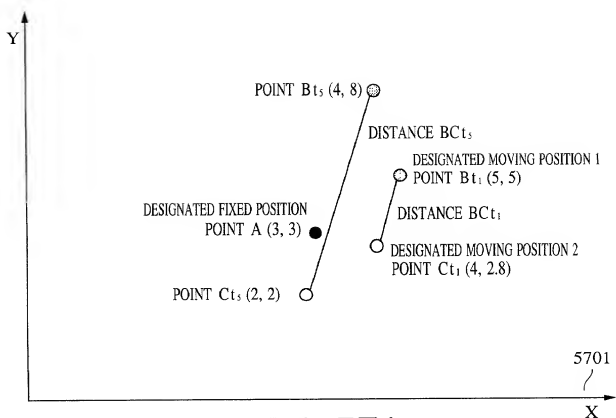


FIG. 57A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

DESIGNATED MOVING POSITION 1  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	5.0
t <sub>2</sub>	4.7	5.8
t <sub>3</sub>	4.4	6.3
t <sub>4</sub>	4.2	7.2
t <sub>5</sub>	4.0	8.0

DESIGNATED MOVING POSITION 2  
POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	4.0	2.8
t <sub>2</sub>	3.8	2.6
t <sub>3</sub>	3.4	2.4
t <sub>4</sub>	2.8	2.2
t <sub>5</sub>	2.0	2.0

FIG. 57B

FIG. 57C

FIG. 57D

DATA OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND C	MAGNIFICATION (DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )
t <sub>1</sub>	2.417	100%
t <sub>2</sub>	3.324	138%
t <sub>3</sub>	4.026	167%
t <sub>4</sub>	5.192	215%
t <sub>5</sub>	6.325	262%

FIG. 57E

DESIGNATING A PLURALITY OF MOVING POINTS

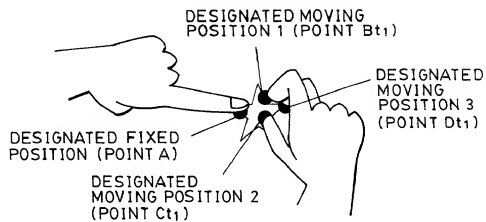


FIG. 58A

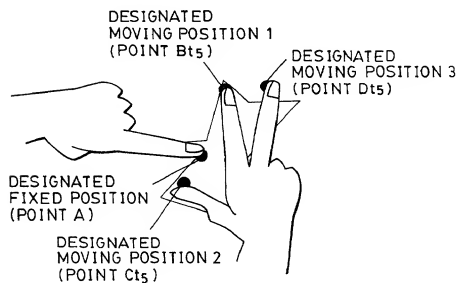


FIG. 58B

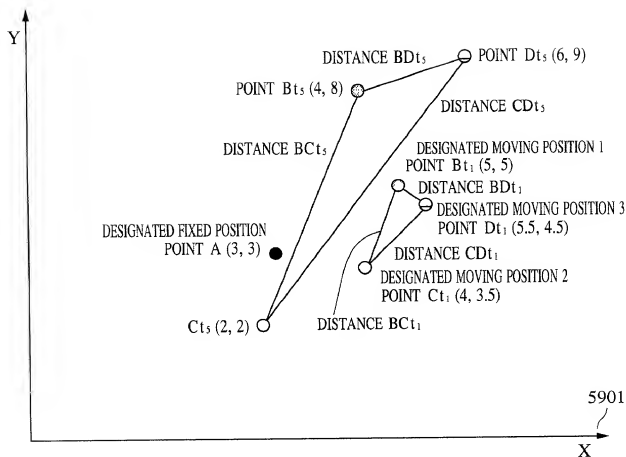


FIG. 59A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3
t <sub>2</sub>	3
t <sub>3</sub>	3
t <sub>4</sub>	3
t <sub>5</sub>	3

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0
t <sub>2</sub>	4.7
t <sub>3</sub>	4.4
t <sub>4</sub>	4.2
t <sub>5</sub>	4.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	4.0
t <sub>2</sub>	3.8
t <sub>3</sub>	3.4
t <sub>4</sub>	2.8
t <sub>5</sub>	2.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT D

D <sub>x</sub>	D <sub>y</sub>
t <sub>1</sub>	5.5
t <sub>2</sub>	5.6
t <sub>3</sub>	5.8
t <sub>4</sub>	5.9
t <sub>5</sub>	6.0

5902

FIG. 59B

FIG. 59C

FIG. 59D

FIG. 59E

DATA 1 OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND C	MAGNIFICATION (DISTANCE t <sub>5</sub> /DISTANCE t <sub>1</sub> )
t <sub>1</sub>	1.803	100%
t <sub>2</sub>	2.657	147%
t <sub>3</sub>	3.640	202%
t <sub>4</sub>	5.096	283%
t <sub>5</sub>	6.325	351%

DATA 2 OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND D	MAGNIFICATION (DISTANCE t <sub>5</sub> /DISTANCE t <sub>1</sub> )
t <sub>1</sub>	0.707	100%
t <sub>2</sub>	0.922	130%
t <sub>3</sub>	1.565	221%
t <sub>4</sub>	1.879	266%
t <sub>5</sub>	2.236	316%

DATA 3 OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN C AND D	MAGNIFICATION (DISTANCE t <sub>5</sub> /DISTANCE t <sub>1</sub> )
t <sub>1</sub>	1.803	100%
t <sub>2</sub>	3.245	180%
t <sub>3</sub>	4.837	268%
t <sub>4</sub>	6.488	360%
t <sub>5</sub>	8.062	447%

5903

FIG. 59F

FIG. 59G

FIG. 59H

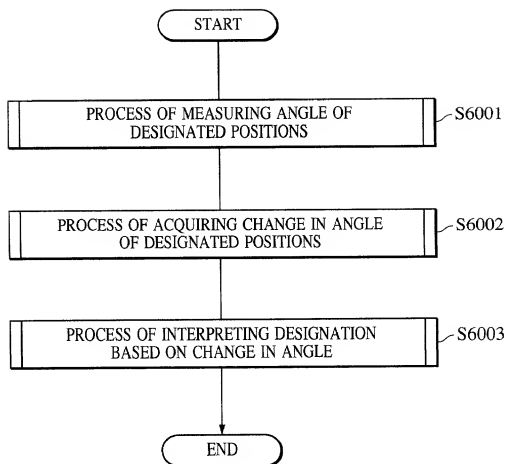


FIG. 60

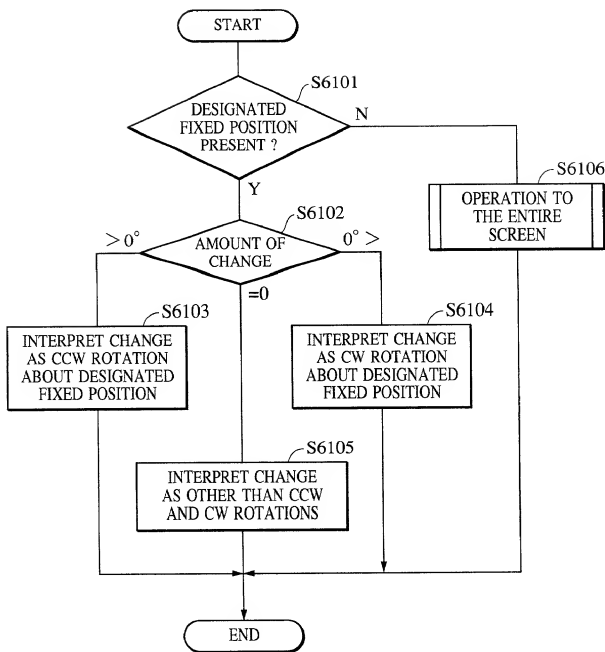


FIG. 61

CW ROTATION OPERATION

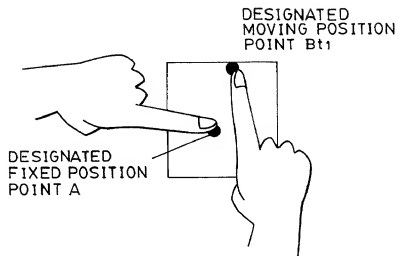


FIG. 62A

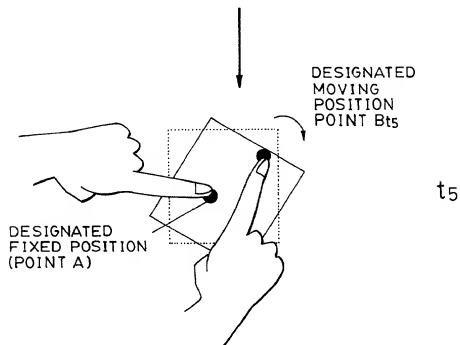
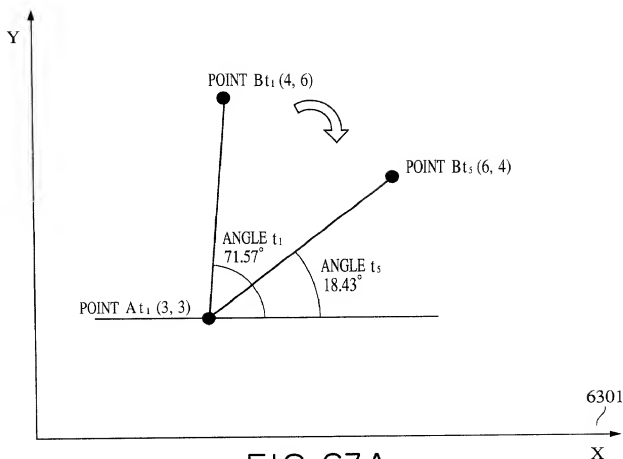


FIG. 62B





DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

6302A

FIG. 63B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	6.0
t <sub>2</sub>	4.7	5.7
t <sub>3</sub>	5.2	5.3
t <sub>4</sub>	5.7	4.6
t <sub>5</sub>	6.0	4.0

6302B

FIG. 63C

DATA OF CHANGE IN ANGLE OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS	AMOUNT OF CHANGE
t <sub>1</sub>	71.57	0.00
t <sub>2</sub>	57.57	-14.00
t <sub>3</sub>	45.91	-25.66
t <sub>4</sub>	30.67	-40.90
t <sub>5</sub>	18.43	-53.13

6303

FIG. 63D

CCW ROTATION OPERATION

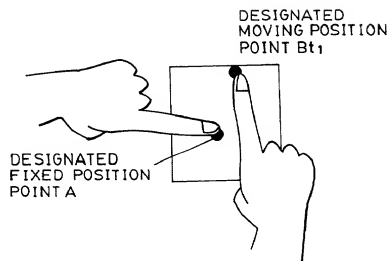


FIG. 64A

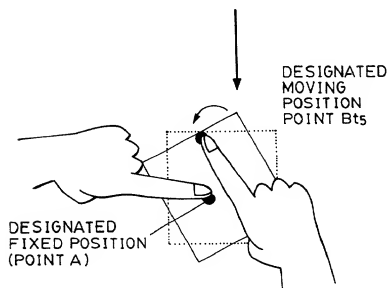


FIG. 64B



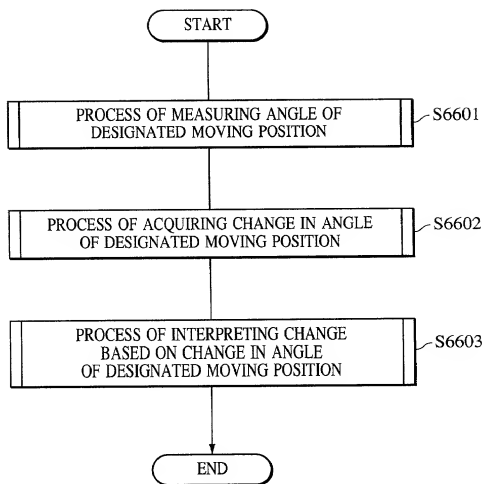


FIG. 66

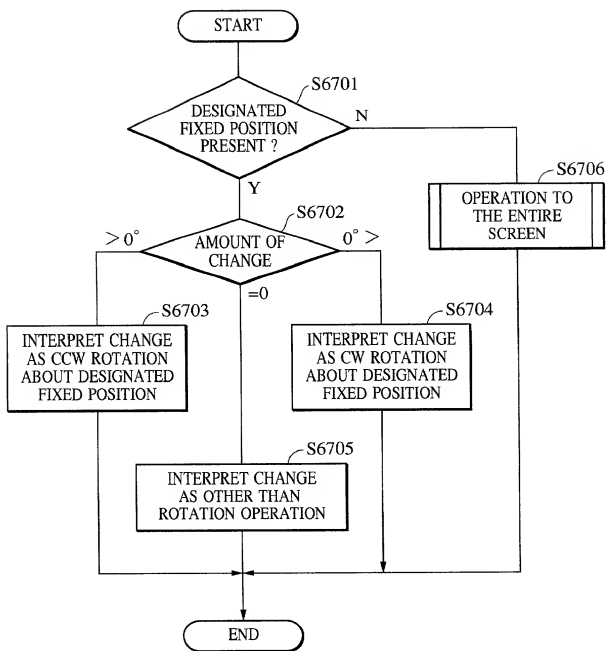


FIG. 67

# CW ROTATION OPERATION

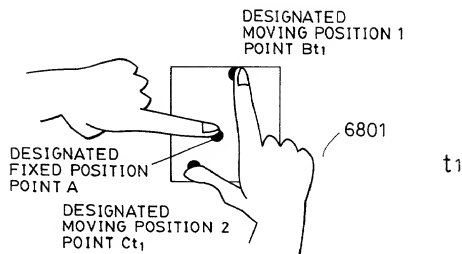


FIG. 68A

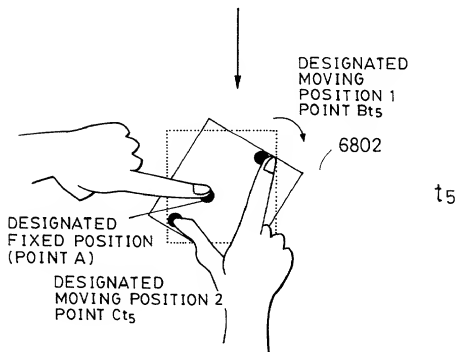


FIG. 68B

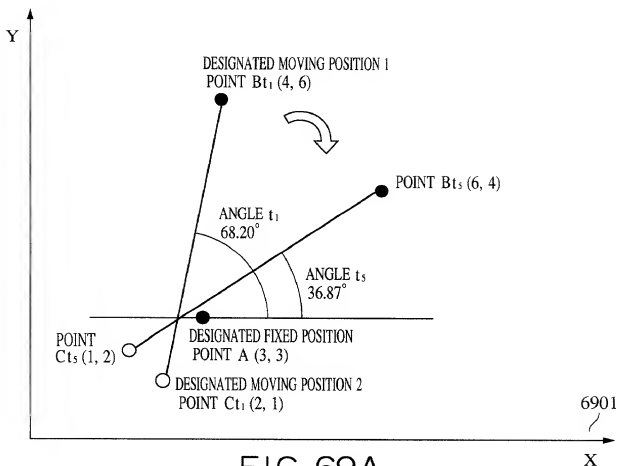


FIG. 69A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 69B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	6.0
t <sub>2</sub>	4.5	5.5
t <sub>3</sub>	5.0	5.0
t <sub>4</sub>	5.5	4.5
t <sub>5</sub>	6.0	4.0

FIG. 69C

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	2	1
t <sub>2</sub>	1.8	1.2
t <sub>3</sub>	1.6	1.5
t <sub>4</sub>	1.4	1.8
t <sub>5</sub>	1	2

FIG. 69D

DATA OF CHANGE IN ANGLE OF DESIGNATED MOVING POSITIONS

	ANGLE OF DESIGNATED MOVING POSITION	AMOUNT OF CHANGE
t <sub>1</sub>	68.20	0.00
t <sub>2</sub>	60.95	-7.25
t <sub>3</sub>	53.13	-15.07
t <sub>4</sub>	45.00	-23.20
t <sub>5</sub>	36.87	-31.33

FIG. 69E

# CCW ROTATION OPERATION

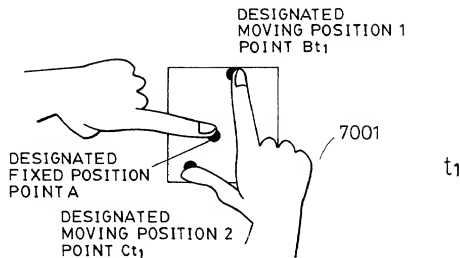


FIG. 70A

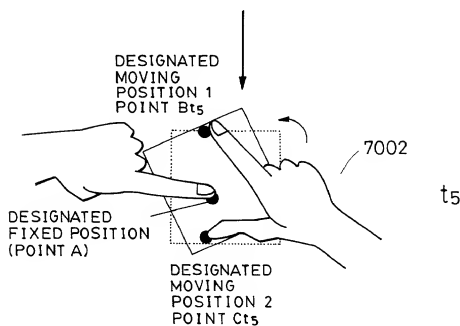


FIG. 70B



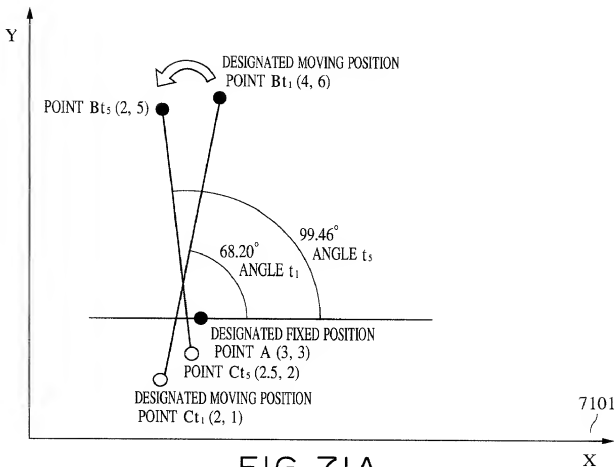


FIG. 71A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	3	3
$t_2$	3	3
$t_3$	3	3
$t_4$	3	3
$t_5$	3	3

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	4.0	6.0
$t_2$	3.5	5.8
$t_3$	3.0	5.4
$t_4$	2.5	5.2
$t_5$	2.0	5.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

	$C_x$	$C_y$
$t_1$	2	1
$t_2$	2.1	1.2
$t_3$	2.3	1.5
$t_4$	2.4	1.8
$t_5$	2.5	2

7102

FIG. 71B

FIG. 71C

FIG. 71D

DATA OF CHANGE IN ANGLE OF DESIGNATED MOVING POSITIONS

	ANGLE OF DESIGNATED MOVING POSITION	AMOUNT OF CHANGE
$t_1$	68.20	0.00
$t_2$	73.07	4.87
$t_3$	79.82	11.63
$t_4$	88.32	20.12
$t_5$	99.46	31.26

7103

FIG. 71E

ROTATION OPERATION ABOUT THE CENTER OF GRAVITY OF DESIGNATED MOVING POSITION

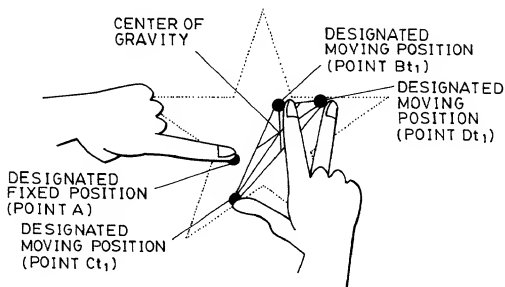


FIG. 72A

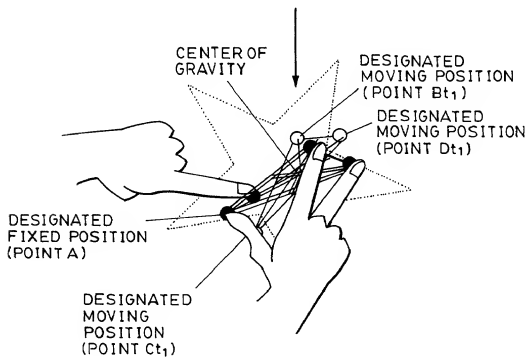


FIG. 72B

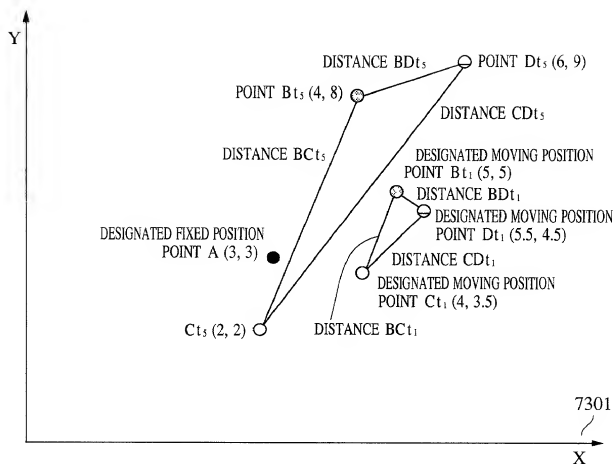


FIG. 73A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	5.0
t <sub>2</sub>	4.7	5.8
t <sub>3</sub>	4.4	6.3
t <sub>4</sub>	4.2	7.2
t <sub>5</sub>	4.0	8.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	4.0	3.5
t <sub>2</sub>	3.8	3.3
t <sub>3</sub>	3.4	2.8
t <sub>4</sub>	2.8	2.3
t <sub>5</sub>	2.0	2.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT D

	D <sub>x</sub>	D <sub>y</sub>
t <sub>1</sub>	5.5	4.5
t <sub>2</sub>	5.6	6.0
t <sub>3</sub>	5.8	7.0
t <sub>4</sub>	5.9	8.0
t <sub>5</sub>	6.0	9.0

FIG. 73B

FIG. 73C

FIG. 73D

FIG. 73E

DATA OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND C	MAGNIFICATION (DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )
t <sub>1</sub>	1.803	100%
t <sub>2</sub>	2.657	147%
t <sub>3</sub>	3.640	202%
t <sub>4</sub>	5.096	283%
t <sub>5</sub>	6.325	351%

DATA OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN B AND D	MAGNIFICATION (DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )
t <sub>1</sub>	0.707	100%
t <sub>2</sub>	0.922	130%
t <sub>3</sub>	1.565	221%
t <sub>4</sub>	1.879	266%
t <sub>5</sub>	2.236	316%

DATA OF CHANGE IN DESIGNATED  
POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN C AND D	MAGNIFICATION (DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )
t <sub>1</sub>	1.803	100%
t <sub>2</sub>	3.245	180%
t <sub>3</sub>	4.837	268%
t <sub>4</sub>	6.488	360%
t <sub>5</sub>	8.062	447%

FIG. 73F

FIG. 73G

FIG. 73H

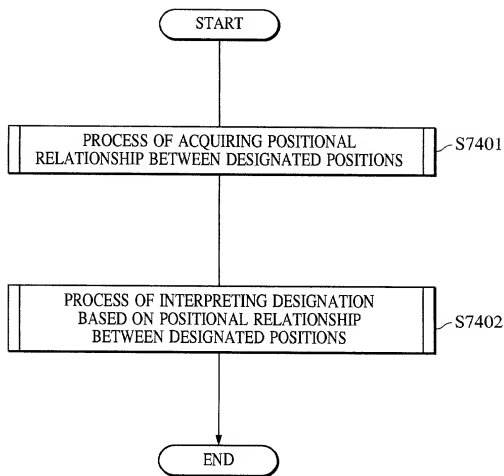


FIG. 74

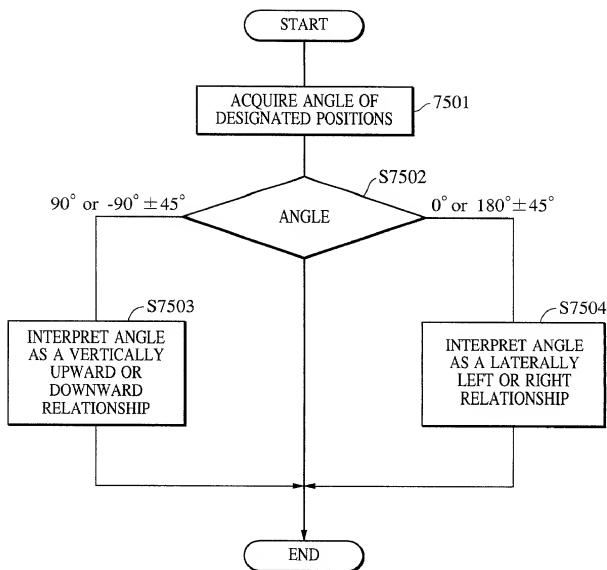
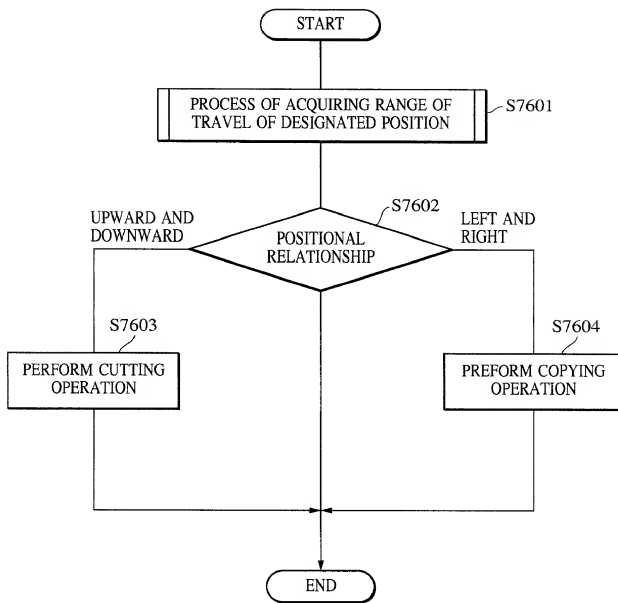


FIG. 75



PARALLEL TRAVEL WITH VERTICAL  
RELATIONSHIP MAINTAINED

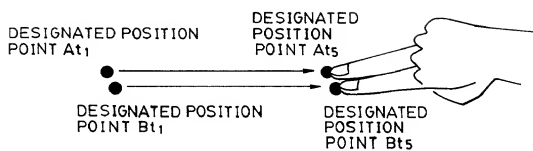


FIG. 77



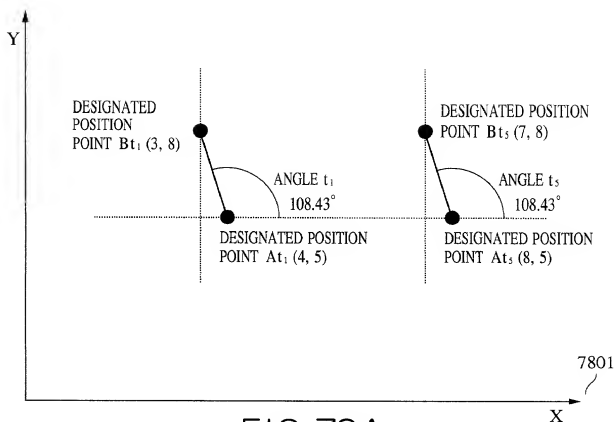


FIG. 78A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	4.0	5.0
$t_2$	5.0	5.0
$t_3$	6.0	5.0
$t_4$	7.0	5.0
$t_5$	8.0	5.0

FIG. 78B

DESIGNATED POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	3.0	8.0
$t_2$	4.0	8.0
$t_3$	5.0	8.0
$t_4$	6.0	8.0
$t_5$	7.0	8.0

FIG. 78C

POSITION DATA OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS
$t_1$	108.43
$t_2$	108.43
$t_3$	108.43
$t_4$	108.43
$t_5$	108.43

FIG. 78D

PARALLEL TRAVEL WITH LATERAL  
RELATIONSHIP MAINTAINED

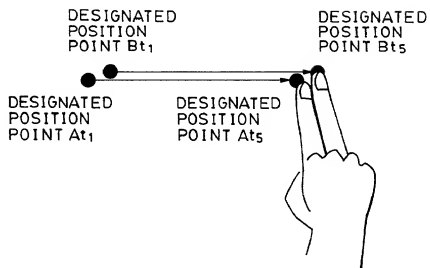


FIG. 79

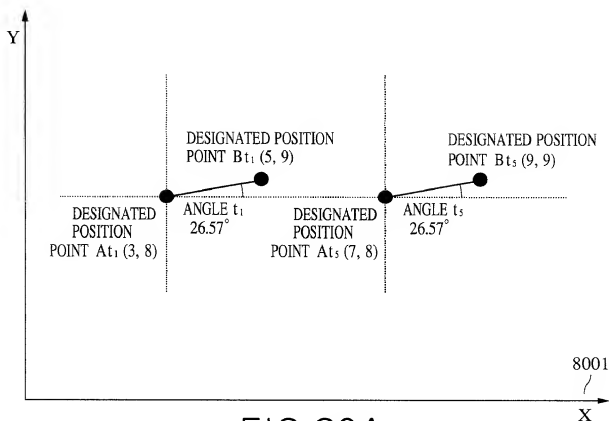


FIG. 80A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	8.0
t <sub>2</sub>	4.0	8.0
t <sub>3</sub>	5.0	8.0
t <sub>4</sub>	6.0	8.0
t <sub>5</sub>	7.0	8.0

FIG. 80B

DESIGNATED POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	9.0
t <sub>2</sub>	6.0	9.0
t <sub>3</sub>	7.0	9.0
t <sub>4</sub>	8.0	9.0
t <sub>5</sub>	9.0	9.0

8002

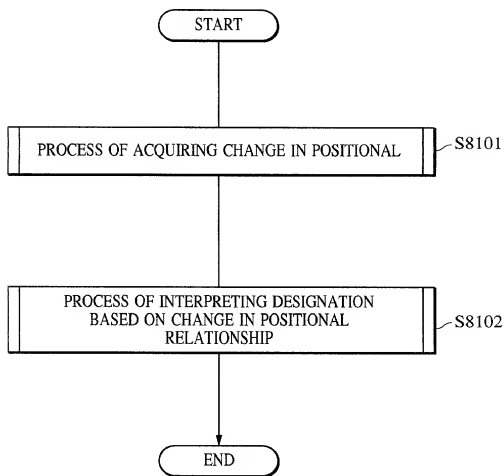
FIG. 80C

POSITION DATA OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS
t <sub>1</sub>	26.57
t <sub>2</sub>	26.57
t <sub>3</sub>	26.57
t <sub>4</sub>	26.57
t <sub>5</sub>	26.57

8003

FIG. 80D



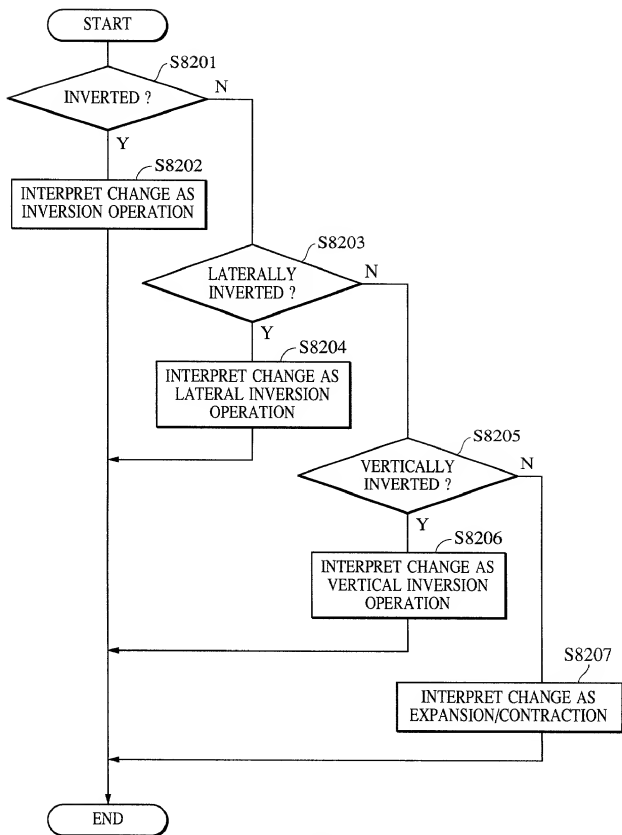


FIG. 82

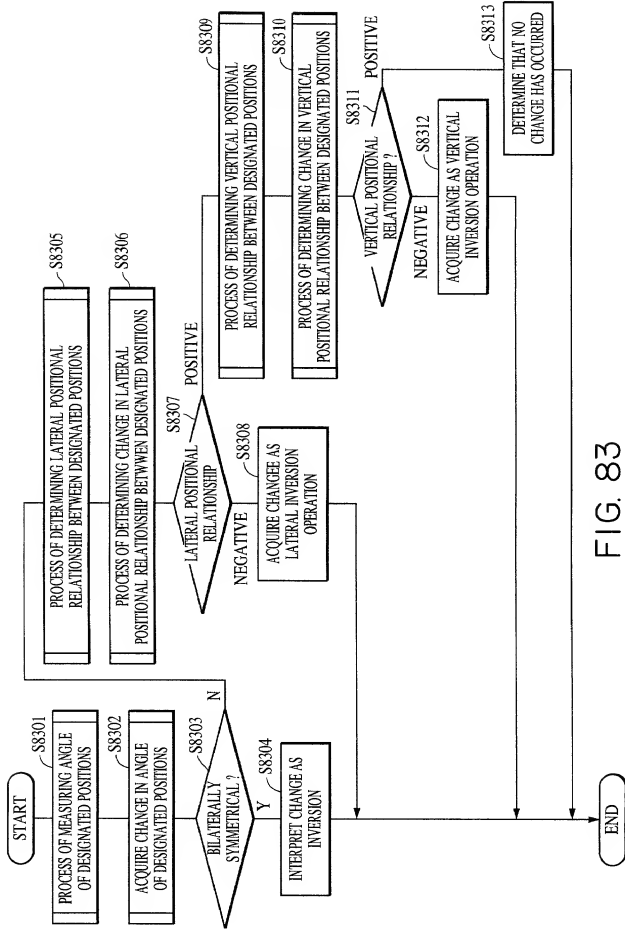


FIG. 83

REVERSAL OPERATION

DESIGNATED  
POSITION  
POINT  $A_{t1}$

DESIGNATED  
POSITION  
POINT  $B_{t1}$

8401

FIG. 84A

DESIGNATED  
POSITION  
POINT  $B_{t5}$

DESIGNATED  
POSITION  
POINT  $A_{t5}$

8402

FIG. 84B

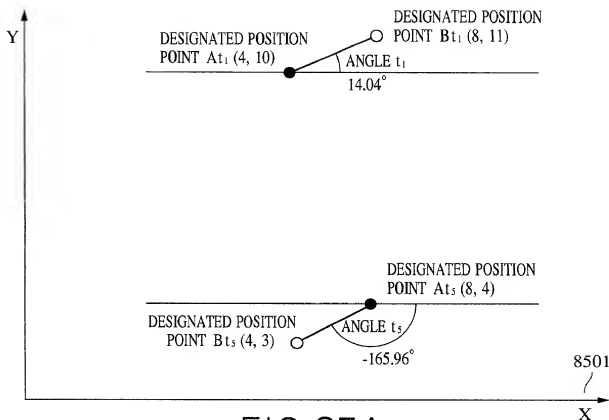


FIG. 85A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	4.0	10.0
t <sub>2</sub>	5.0	8.0
t <sub>3</sub>	6.0	6.0
t <sub>4</sub>	7.0	5.0
t <sub>5</sub>	8.0	4.0

DESIGNATED POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	8.0	11.0
t <sub>2</sub>	7.0	9.0
t <sub>3</sub>	6.0	7.0
t <sub>4</sub>	5.0	5.0
t <sub>5</sub>	4.0	3.0

FIG. 85B

FIG. 85C

DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
t <sub>1</sub>	-4.0	-1.0	14.04	0.00
t <sub>2</sub>	-2.0	-1.0	26.57	-12.53
t <sub>3</sub>	0.0	-1.0	90.00	-75.99
t <sub>4</sub>	2.0	0.0	180.00	-165.96
t <sub>5</sub>	4.0	1.0	-165.96	180.00

FIG. 85D



LATERAL INVERSION

DESIGNATED  
POSITION  
POINT B<sub>t1</sub>

DESIGNATED  
POSITION  
POINT A<sub>t1</sub>

FIG. 86A

DESIGNATED  
POSITION  
POINT B<sub>t5</sub>

DESIGNATED  
POSITION  
POINT A<sub>t5</sub>

FIG. 86B

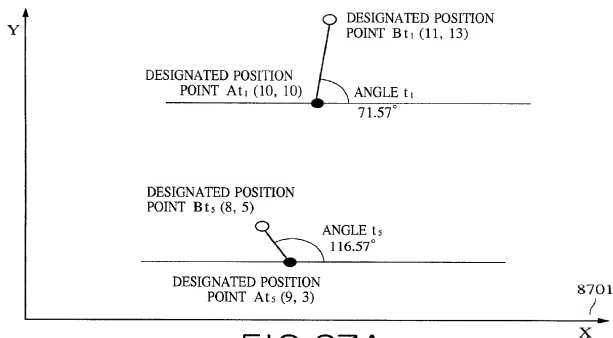


FIG. 87A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	10.0	10.0
t <sub>2</sub>	9.8	8.0
t <sub>3</sub>	9.6	6.0
t <sub>4</sub>	9.3	5.0
t <sub>5</sub>	9.0	3.0

FIG. 87B

DESIGNATED POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	11.0	13.0
t <sub>2</sub>	10.8	9.0
t <sub>3</sub>	10.6	7.0
t <sub>4</sub>	10.3	6.0
t <sub>5</sub>	8.0	5.0

FIG. 87C

DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
t <sub>1</sub>	-1.0	-3.0	71.57	0.00
t <sub>2</sub>	-1.0	-1.0	45.00	26.57
t <sub>3</sub>	-1.0	-1.0	45.00	26.57
t <sub>4</sub>	-1.0	-1.0	45.00	26.57
t <sub>5</sub>	1.0	-2.0	116.57	45.00

FIG. 87D

VERTICAL INVERSION



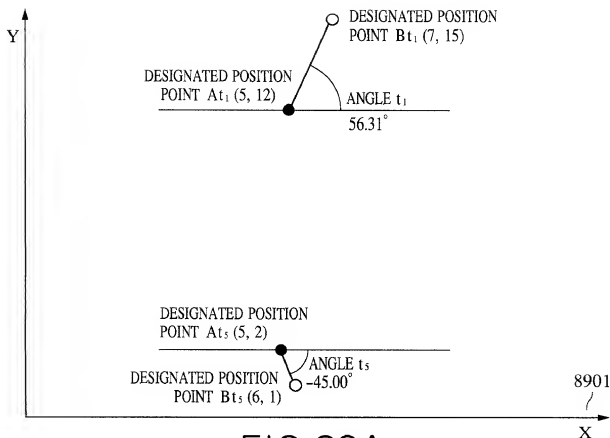


FIG. 89A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	5.0	12.0
$t_2$	5.0	9.0
$t_3$	5.0	6.0
$t_4$	5.0	3.0
$t_5$	5.0	2.0

DESIGNATED POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	7.0	15.0
$t_2$	6.8	11.0
$t_3$	6.5	8.0
$t_4$	6.2	4.0
$t_5$	6.0	1.0

8902

FIG. 89B

FIG. 89C

DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
$t_1$	-2.0	-3.0	56.31	0.00
$t_2$	-1.8	-2.0	48.01	8.30
$t_3$	-1.5	-2.0	53.13	3.18
$t_4$	-1.2	-1.0	39.81	16.50
$t_5$	-1.0	1.0	-45.00	101.31

8903

FIG. 89D

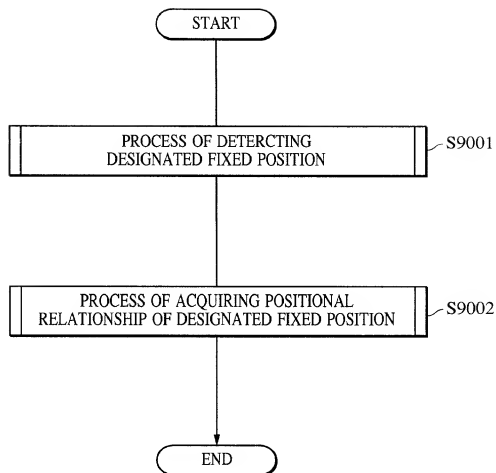


FIG. 90

START

PROCESS OF INTERPRETING DESIGNATION  
BASED ON POSITIONAL RELATIONSHIP OF  
DESIGNATED FIXED POSITION

S9101

END

FIG. 91

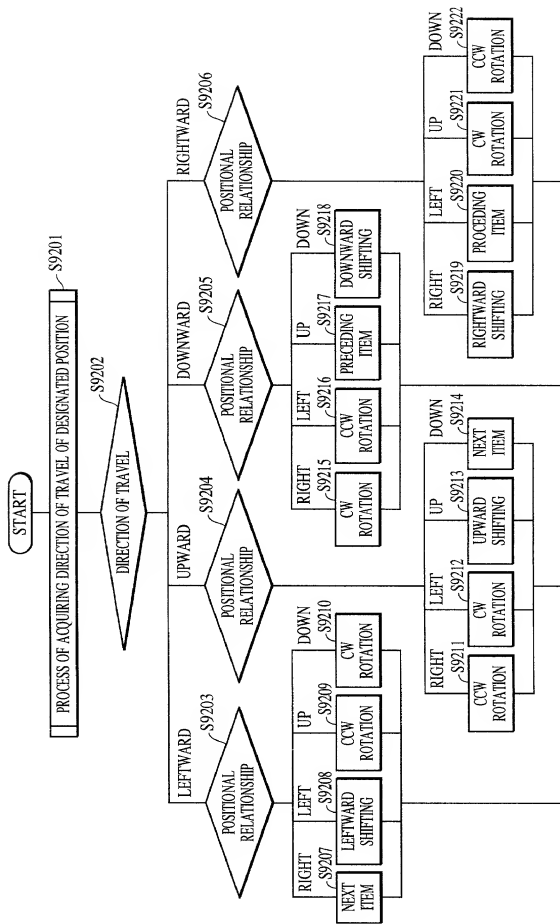


FIG. 92

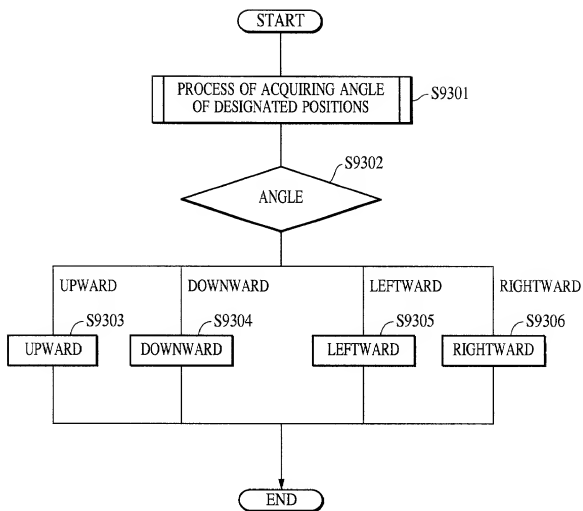


FIG. 93

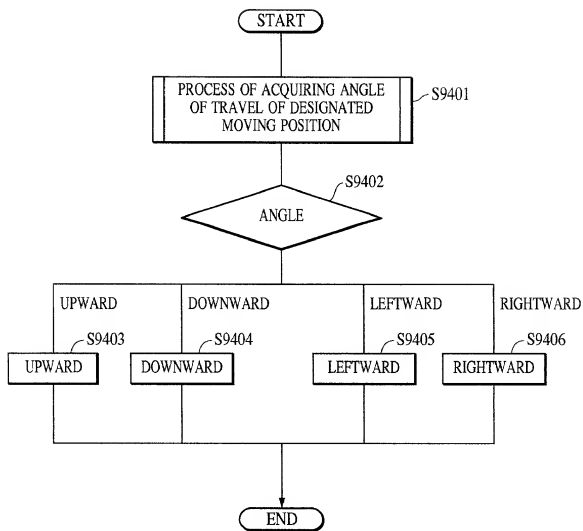
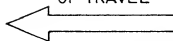


FIG. 94



LEFTWARD  
DIRECTION  
OF TRAVEL



MOVING POSITION ON LEFT  
OF FIXED POSITION

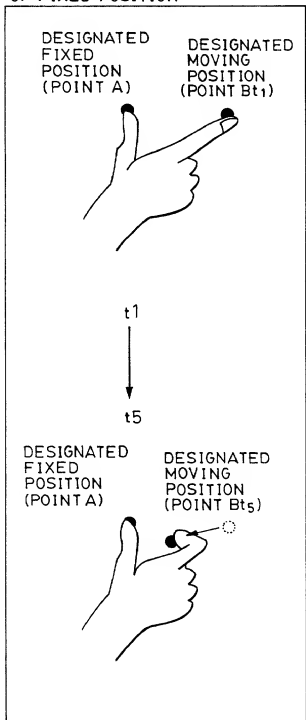


FIG. 95A

MOVING POSITION ON RIGHT  
OF FIXED POSITION

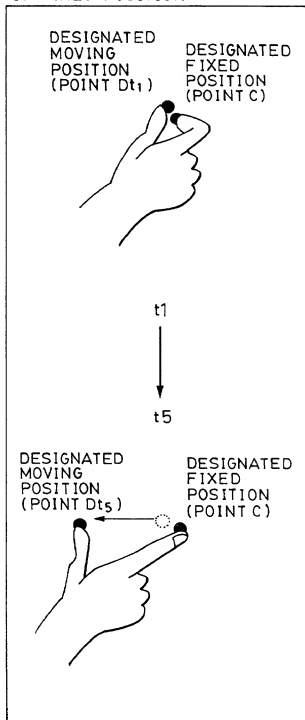


FIG. 95B

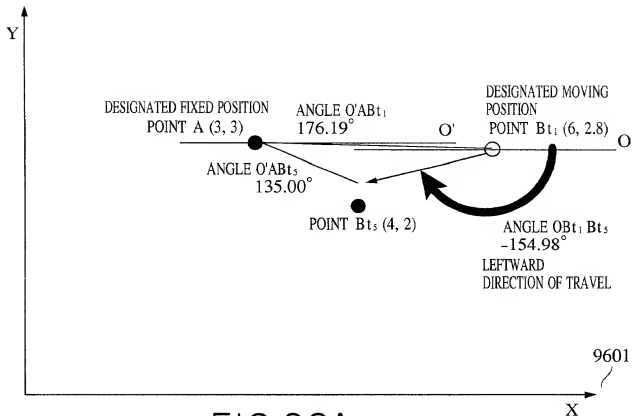


FIG. 96A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	$A_x$	$A_y$
$t_1$	3	3
$t_2$	3	3
$t_3$	3	3
$t_4$	3	3
$t_5$	3	3

FIG. 96B

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT B

	$B_x$	$B_y$
$t_1$	6.0	3.0
$t_2$	5.3	2.3
$t_3$	4.7	1.7
$t_4$	4.3	1.2
$t_5$	4.0	2.0

FIG. 96C

DATA OF TRAVEL OF DESIGNATED MOVING POSITION

	TRAVEL OF POINT A	TRAVEL OF POINT B	ANGLE OF DESIGNATED POSITIONS	DIRECTION OF TRAVEL
$t_1$	0.000	0.000	176.19	-158.20
$t_2$	0.000	0.000	163.30	-154.98
$t_3$	0.000	1.729	142.05	-154.98
$t_4$	0.000	2.310	126.53	-154.98
$t_5$	0.000	2.154	135.00	-154.98

FIG. 96D

START

PROCESS OF DETERMINING POSITIONAL  
RELATIONSHIP  
BETWEEN DESIGNATED FIXED POSITION  
AND DESIGNATED MOVING POSITION

S9701

PROCESS OF INTERPRETING DESIGNATION  
BASED ON POSITIONAL RELATIONSHIP BETWEEN  
DESIGNATED FIXED POSITION AND DESIGNATED  
MOVING POSITION

S9702

END

FIG. 97

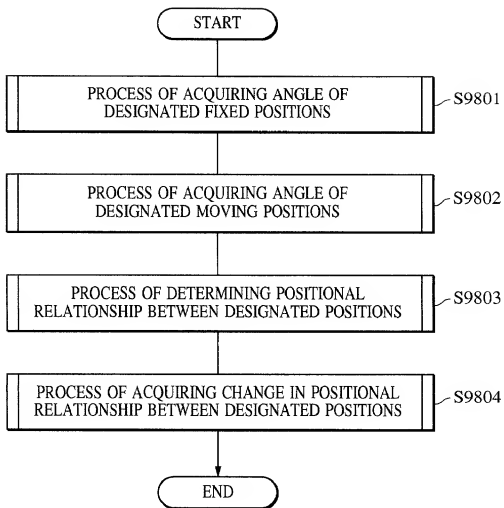


FIG. 98

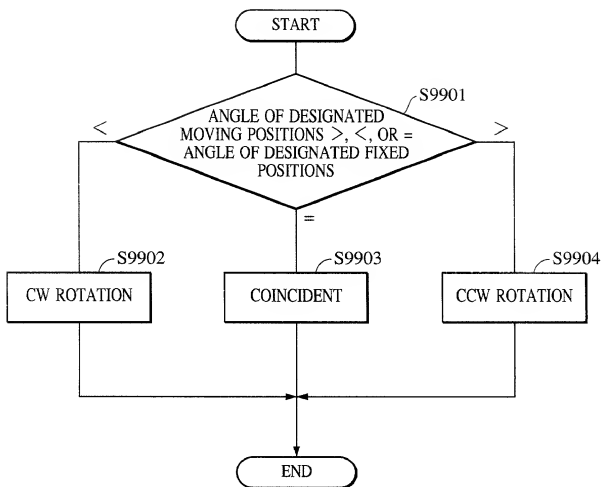


FIG. 99

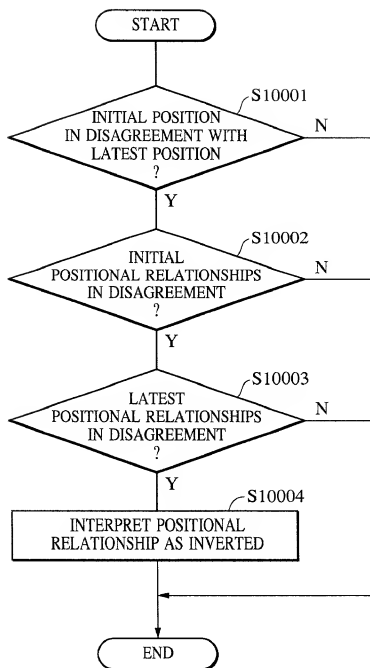


FIG. 100

[illegible]

N

Y

S10102

END

FIG. 101

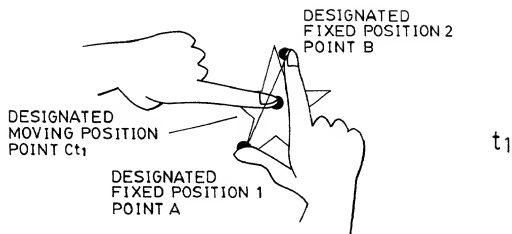
[illegible]

FIG. 102A

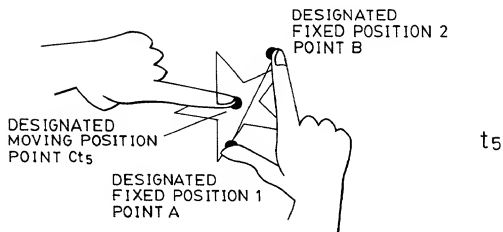


FIG. 102B



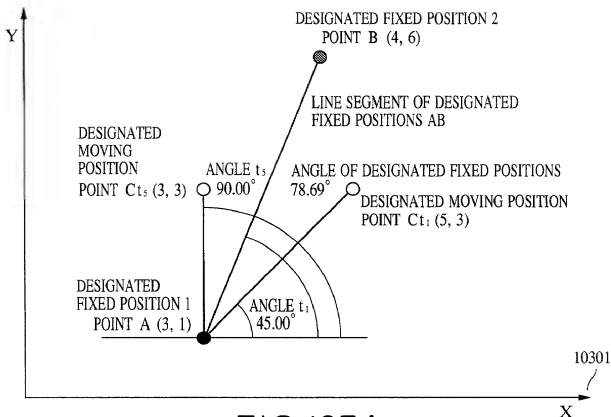


FIG. 103A

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	1.0
t <sub>2</sub>	3.0	1.0
t <sub>3</sub>	3.0	1.0
t <sub>4</sub>	3.0	1.0
t <sub>5</sub>	3.0	1.0

DESIGNATED FIXED POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	6.0
t <sub>2</sub>	4.0	6.0
t <sub>3</sub>	4.0	6.0
t <sub>4</sub>	4.0	6.0
t <sub>5</sub>	4.0	6.0

DESIGNATED MOVING POSITION  
POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	5.0	3.0
t <sub>2</sub>	4.5	3.0
t <sub>3</sub>	4.0	3.0
t <sub>4</sub>	3.5	3.0
t <sub>5</sub>	3.0	3.0

10302

FIG. 103B

FIG. 103C

FIG. 103D

POSITIONAL RELATIONSHIP DATA OF TWO DESIGNATED  
FIXED POSITIONS AND DESIGNATED MOVING POSITION

	ANGLE OF FIXED POSITIONS	ANGLE OF MOVING POSITIONS
t <sub>1</sub>	78.69	45.00
t <sub>2</sub>	78.69	53.13
t <sub>3</sub>	78.69	63.43
t <sub>4</sub>	78.69	75.96
t <sub>5</sub>	78.69	90.00

10303

FIG. 103E

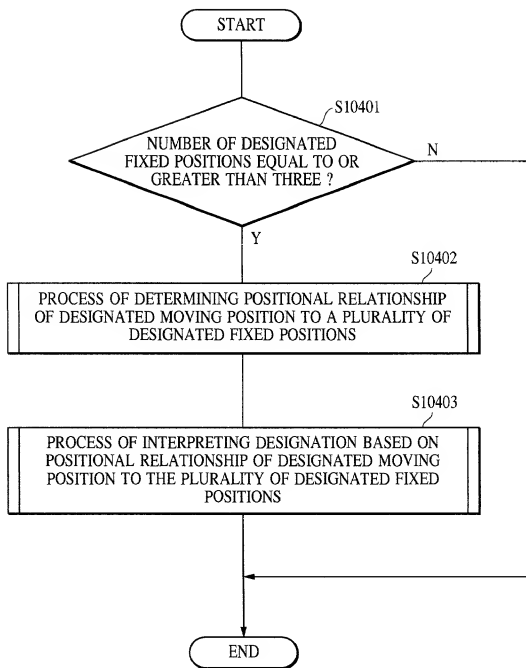


FIG. 104

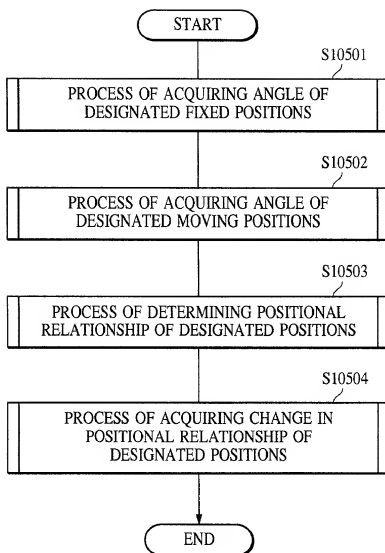


FIG. 105

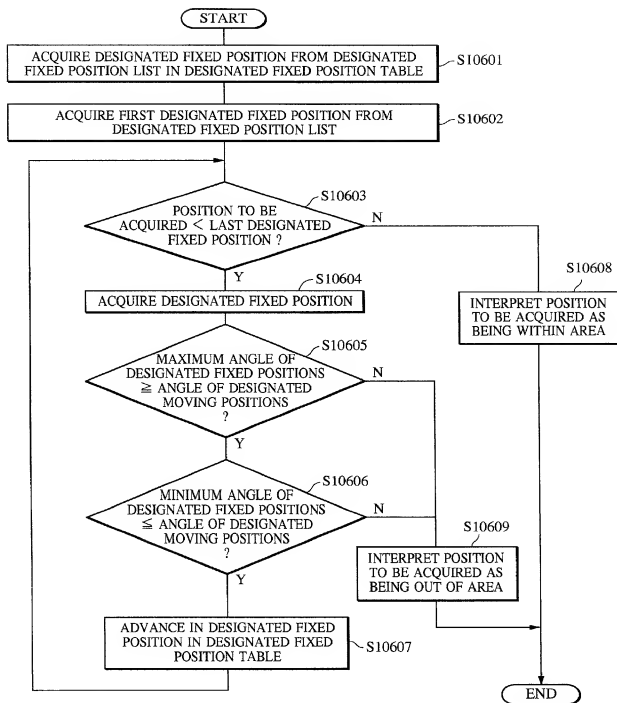


FIG. 106

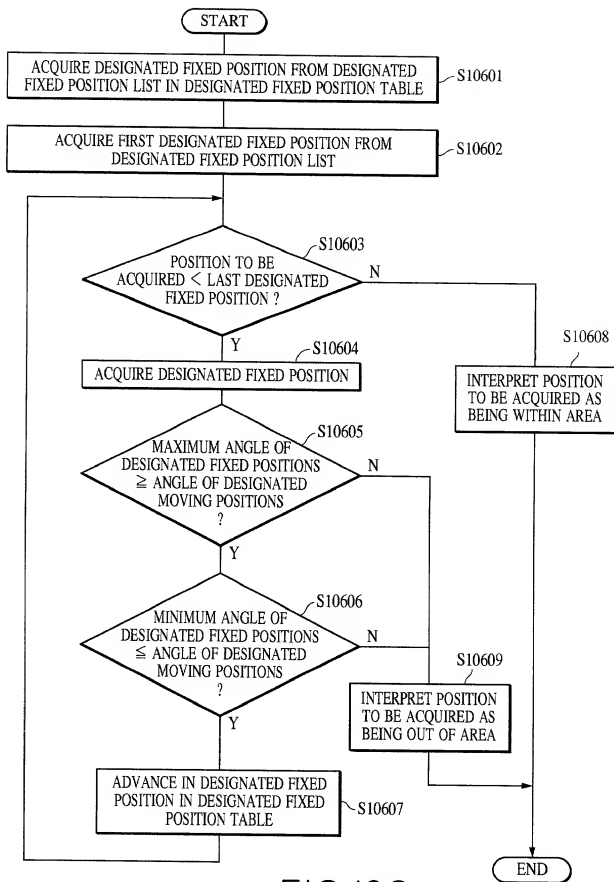


FIG. 106

WITHIN AREA

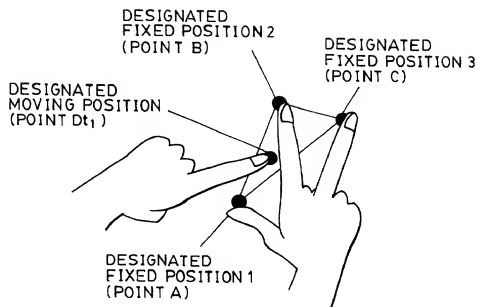


FIG. 107

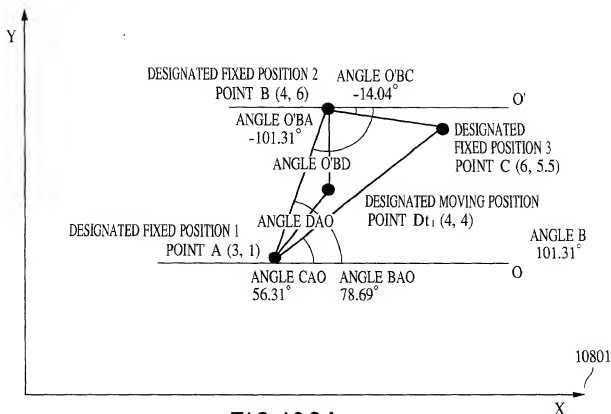


FIG. 108A

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT A

	$A_x$	$A_y$
$t_1$	3.0	1.0

FIG. 108B

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT B

	$B_x$	$B_y$
$t_1$	4.0	6.0

FIG. 108C

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT C

	$C_x$	$C_y$
$t_1$	6.0	5.5

FIG. 108D

DESIGNATED  
MOVING POSITION  
POSITION DATA OF  
POINT D

	$D_x$	$D_y$
$t_1$	4.0	4.0

FIG. 108E

DATA OF CHANGE IN POSITIONAL RELATIONSHIP OF  
DESIGNATED FIXED POSITIONS

	ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD
$t_1$	78.69	56.31	71.57	-101.31	-14.04	-90.00

FIG. 108F

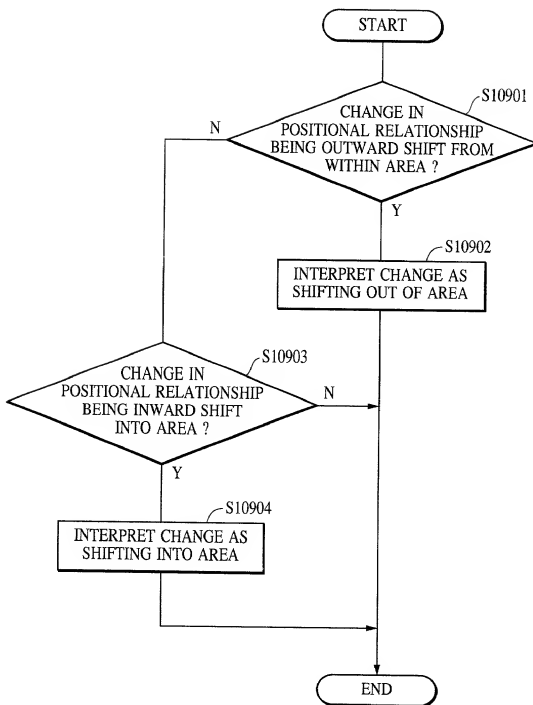


FIG. 109



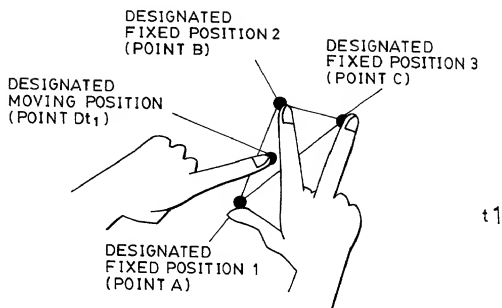


FIG. 110A

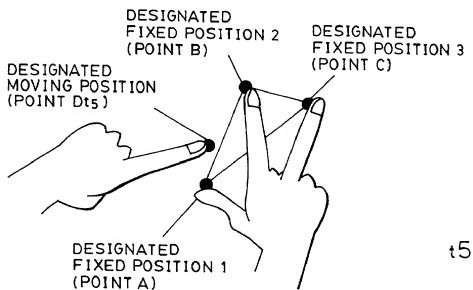


FIG. 110B

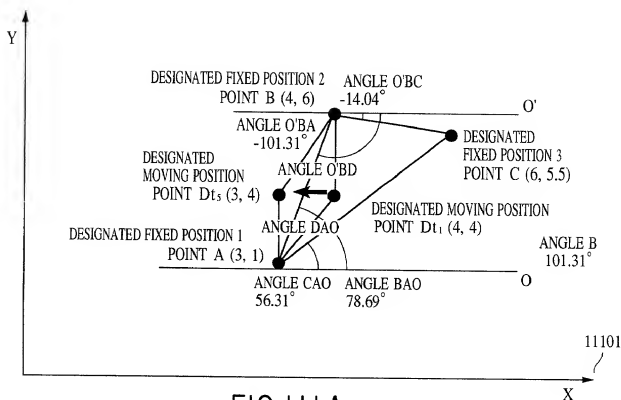


FIG. 111A

DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	1.0
t <sub>2</sub>	3.0	1.0
t <sub>3</sub>	3.0	1.0
t <sub>4</sub>	3.0	1.0
t <sub>5</sub>	3.0	1.0

DESIGNATED FIXED POSITION POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	6.0
t <sub>2</sub>	4.0	6.0
t <sub>3</sub>	4.0	6.0
t <sub>4</sub>	4.0	6.0
t <sub>5</sub>	4.0	6.0

DESIGNATED FIXED POSITION POSITION DATA OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	6.0	5.5
t <sub>2</sub>	6.0	5.5
t <sub>3</sub>	6.0	5.5
t <sub>4</sub>	6.0	5.5
t <sub>5</sub>	6.0	5.5

DESIGNATED MOVING POSITION POSITION DATA OF POINT D

	D <sub>x</sub>	D <sub>y</sub>
t <sub>1</sub>	4.0	4.0
t <sub>2</sub>	3.8	4.0
t <sub>3</sub>	3.6	4.0
t <sub>4</sub>	3.3	4.0
t <sub>5</sub>	3.0	4.0

FIG. 111B

FIG. 111C

FIG. 111D

FIG. 111E

DATA OF CHANGE IN POSITIONAL RELATIONSHIP OF DESIGNATED FIXED POSITIONS

	ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD
t <sub>1</sub>	78.69	56.31	71.57	-101.31	-14.04	-90.00
t <sub>2</sub>	78.69	56.31	57.07	-101.31	-14.04	-95.71
t <sub>3</sub>	78.69	56.31	78.69	-101.31	-14.04	-101.31
t <sub>4</sub>	78.69	56.31	84.29	-101.31	-14.04	-109.29
t <sub>5</sub>	78.69	56.31	90.00	-101.31	-14.04	-116.57

FIG. 111F

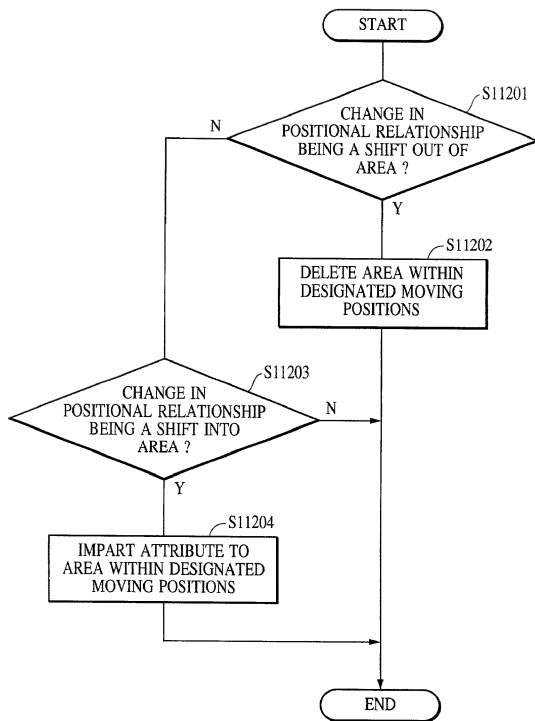


FIG. 112

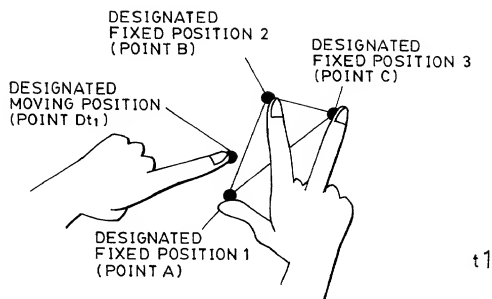


FIG. 113A

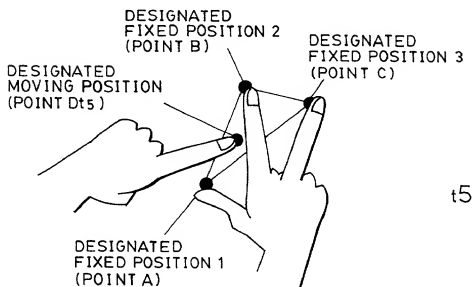


FIG. 113B

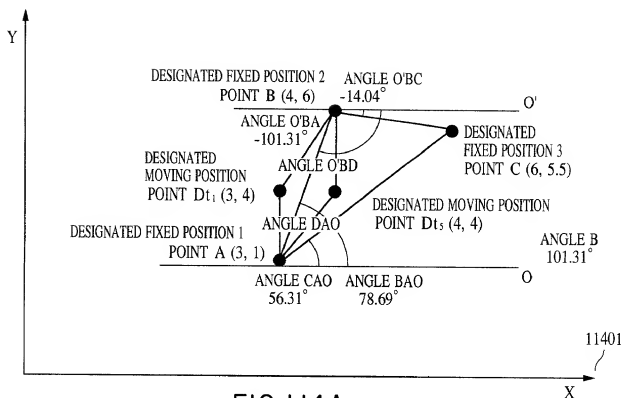


FIG. 114A

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	1.0
t <sub>2</sub>	3.0	1.0
t <sub>3</sub>	3.0	1.0
t <sub>4</sub>	3.0	1.0
t <sub>5</sub>	3.0	1.0

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	6.0
t <sub>2</sub>	4.0	6.0
t <sub>3</sub>	4.0	6.0
t <sub>4</sub>	4.0	6.0
t <sub>5</sub>	4.0	6.0

DESIGNATED FIXED  
POSITION  
POSITION DATA OF  
POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	6.0	5.5
t <sub>2</sub>	6.0	5.5
t <sub>3</sub>	6.0	5.5
t <sub>4</sub>	6.0	5.5
t <sub>5</sub>	6.0	5.5

DESIGNATED  
MOVING POSITION  
POSITION DATA OF  
POINT D

	D <sub>x</sub>	D <sub>y</sub>
t <sub>1</sub>	3.0	4.0
t <sub>2</sub>	3.3	4.0
t <sub>3</sub>	3.6	4.0
t <sub>4</sub>	3.8	4.0
t <sub>5</sub>	4.0	4.0

FIG. 114B FIG. 114C FIG. 114D FIG. 114E

DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD
t <sub>1</sub>	78.69	56.31	90.00	-101.31	-14.04	-116.57
t <sub>2</sub>	78.69	56.31	84.29	-101.31	-14.04	-109.29
t <sub>3</sub>	78.69	56.31	78.69	-101.31	-14.04	-101.31
t <sub>4</sub>	78.69	56.31	75.07	-101.31	-14.04	-95.71
t <sub>5</sub>	78.69	56.31	71.57	-101.31	-14.04	-90.00

FIG. 114F

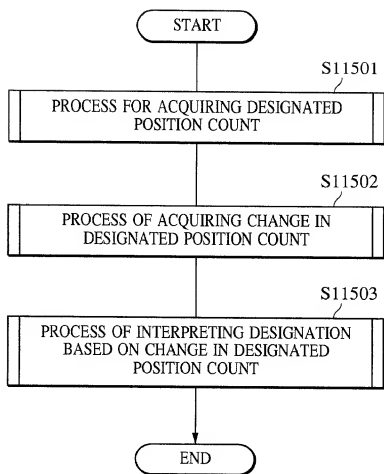


FIG. 115

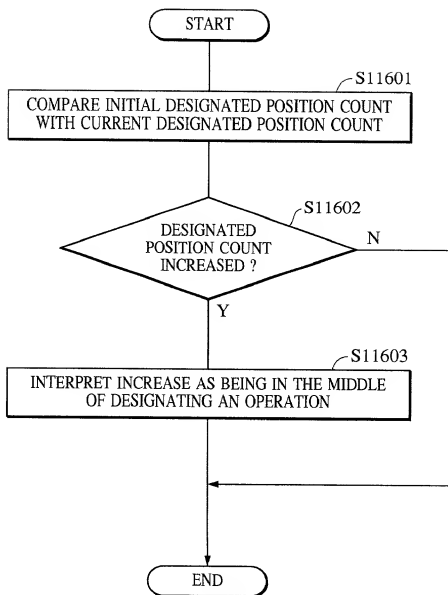


FIG. 116

TIME  $t_1$

INITIAL  
DESIGNATED  
POSITION  
POINT  $At_1$

INITIAL  
DESIGNATED  
POSITION  
POINT  $Bt_1$

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of text to be generated is selected from the input information and the retrieved information relating to the input information. Subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, a text to be output is generated in the determined describing order.

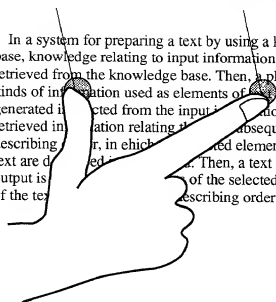


FIG. 117A

TIME  $t_2$

DESIGNATED  
POSITION  
POINT  $At_2$

DESIGNATED  
POSITION  
POINT  $Bt_2$

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of text to be generated is selected from the input information and the retrieved information relating to the input information. Subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, a text to be output is generated in the determined describing order.

DESIGNATED  
POSITION  
POINT  $Ct_2$

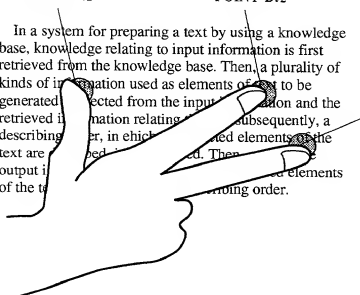


FIG. 117B

00760461-013604



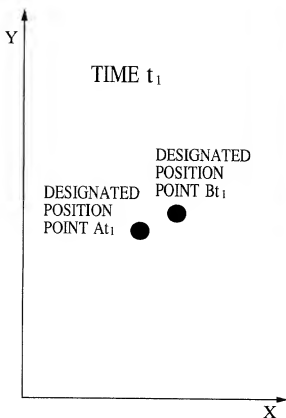


FIG. 118A

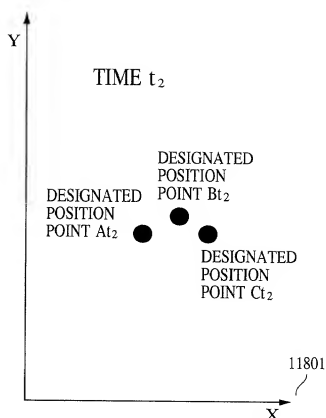


FIG. 118B

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0

FIG. 118C

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	4.0
t <sub>2</sub>	4.0	4.0
t <sub>3</sub>	4.0	4.0

FIG. 118D

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>		
t <sub>2</sub>	5.0	3.0
t <sub>3</sub>	5.0	3.0

FIG. 118E

DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
t <sub>1</sub>	2	0
t <sub>2</sub>	3	1
t <sub>3</sub>	3	1

FIG. 118F

START

PROCESS OF ACQUIRING INITIAL  
DESIGNATED POSITION

DESIGNATED  
POSITION COUNT  
INCREASED ?

PROCESS OF INTERPRETING  
DESIGNATION BASED ON  
INITIAL DESIGNATED POSITION

END

FIG. 119

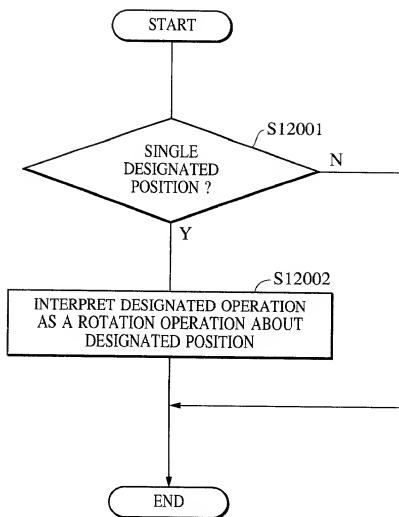


FIG. 120

TIME  $t_1$

INITIAL  
DESIGNATED  
POSITION  
POINT A(3,3)

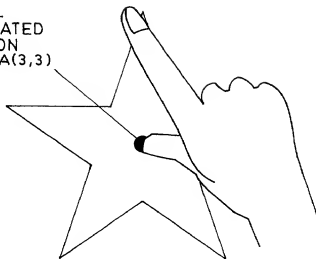


FIG. 121A

TIME  $t_5$

DESIGNATED  
POSITION  
POINT Bt3

DESIGNATED  
POSITION  
POINT Bt5

DESIGNATED  
POSITION  
POINT A(3,3)

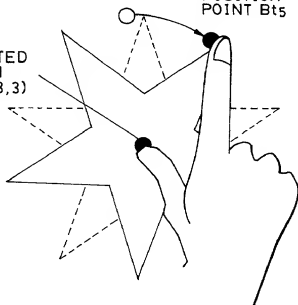


FIG. 121B

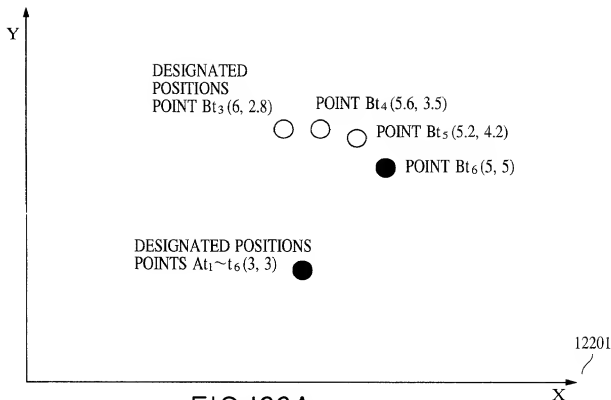


FIG. 122A

DESIGNATED POSITION  
POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0
t <sub>4</sub>	3.0	3.0
t <sub>5</sub>	3.0	3.0
t <sub>6</sub>	3.0	3.0

FIG. 122B

DESIGNATED POSITION  
POSITION DATA OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>		
t <sub>2</sub>		
t <sub>3</sub>	6.0	2.8
t <sub>4</sub>	5.6	3.5
t <sub>5</sub>	5.2	4.2
t <sub>6</sub>	5.0	5.0

FIG. 122C

DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
t <sub>1</sub>	1	0
t <sub>2</sub>	1	0
t <sub>3</sub>	2	1
t <sub>4</sub>	2	1
t <sub>5</sub>	2	1
t <sub>6</sub>	2	1

FIG. 122D

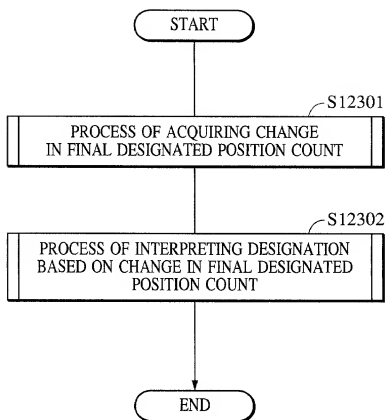


FIG. 123

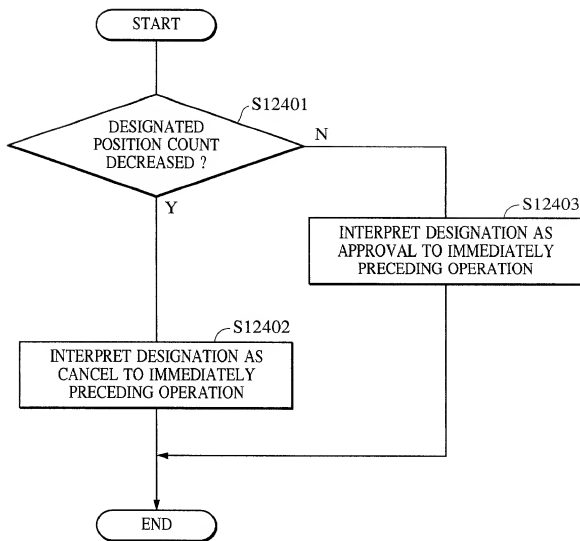


FIG. 124

[illegible]DESIGNATED  
POSITION  
POINT Bt<sub>1</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of text to be generated is selected from the input information and the retrieved information relating to the input information and the retrieved information relating to the input information, subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, the elements of the text are described in the determined describing order.

DESIGNATED  
POSITION  
POINT Ct<sub>1</sub>

FIG. 125A

[illegible]DESIGNATED  
POSITION  
POINT Bt2

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of output text are generated in accordance with the input information and the retrieved information relating to the input information. Subsequently, a description order, in which the generated elements of the text are described, is determined. Then, a text to be output is generated in accordance with the description order of the selected elements of the text.

FIG. 125B



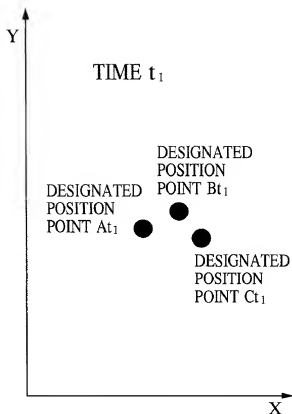


FIG. 126A

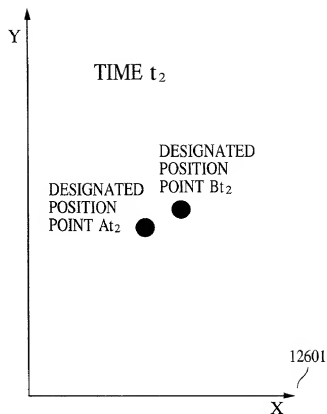


FIG. 126B

DESIGNATED POSITION  
POSITION DATA OF  
POINT A

	$A_x$	$A_y$
$t_1$	3.0	3.0
$t_2$	3.0	3.0

FIG. 126C

DESIGNATED POSITION  
POSITION DATA OF  
POINT B

	$B_x$	$B_y$
$t_1$	4.0	4.0
$t_2$	4.0	4.0

FIG. 126D

DESIGNATED POSITION  
POSITION DATA OF  
POINT C

	$C_x$	$C_y$
$t_1$	5.0	3.0
$t_2$		

FIG. 126E

DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
$t_1$	3	0
$t_2$	2	-1

FIG. 126F

```
graph TD; START([START]) --> S12701[PROCESS OF ACQUIRING DESIGNATED INFORMATION]; S12701 --> S12702{OPERATION REPEATED?}; S12702 -- Y --> S12704[PROCESS OF INTERPRETING DESIGNATION AS SUSPENDING OPERATION]; S12704 --> S12703[PROCESS OF INTERPRETING DESIGNATION BASED ON DESIGNATED INFORMATION]; S12702 -- N --> S12703; S12703 --> END([END]);
```

The flowchart illustrates the process of interpreting designation based on designated information. It begins with a START terminal, followed by a process block S12701 labeled "PROCESS OF ACQUIRING DESIGNATED INFORMATION". This leads to a decision diamond S12702 labeled "OPERATION REPEATED?". If the answer is "Y" (Yes), the flow proceeds to a process block S12704 labeled "PROCESS OF INTERPRETING DESIGNATION AS SUSPENDING OPERATION". If the answer is "N" (No), the flow proceeds directly to process block S12703 labeled "PROCESS OF INTERPRETING DESIGNATION BASED ON DESIGNATED INFORMATION". Both paths converge at S12703, which then leads to the END terminal.

FIG. 127

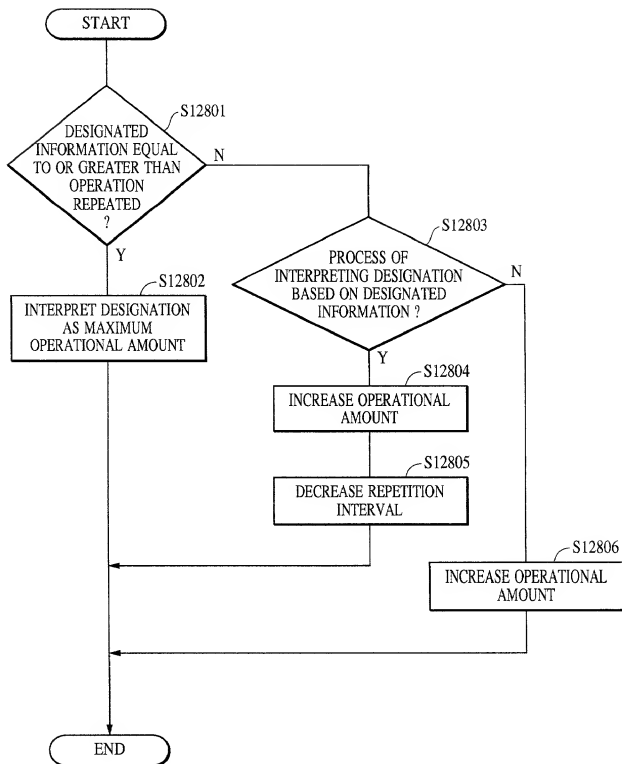
[illegible]

FIG. 128

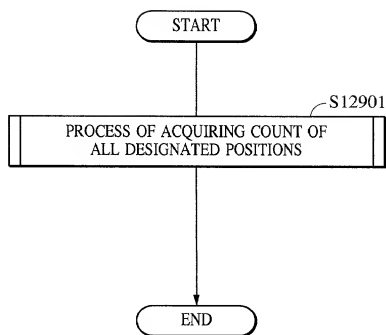


FIG. 129

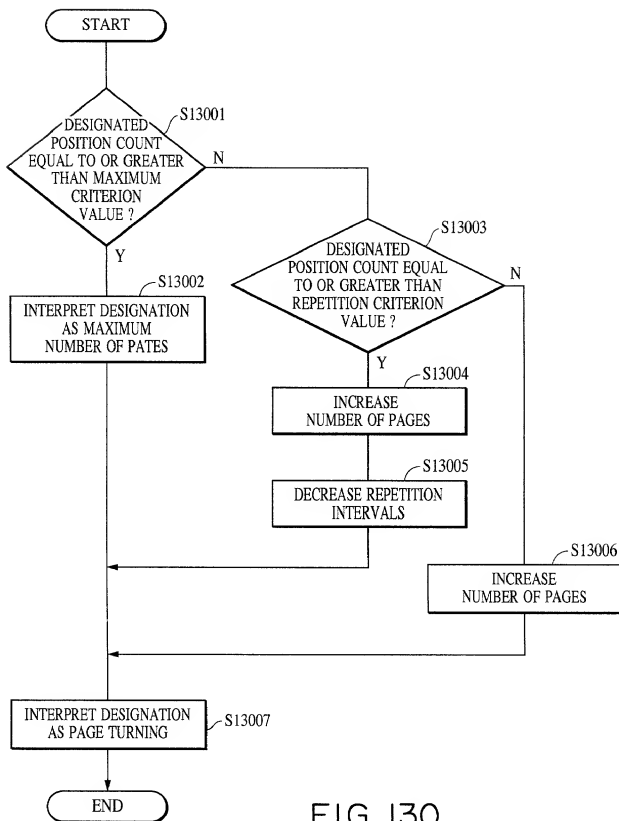


FIG. 130

PAGE TURNING

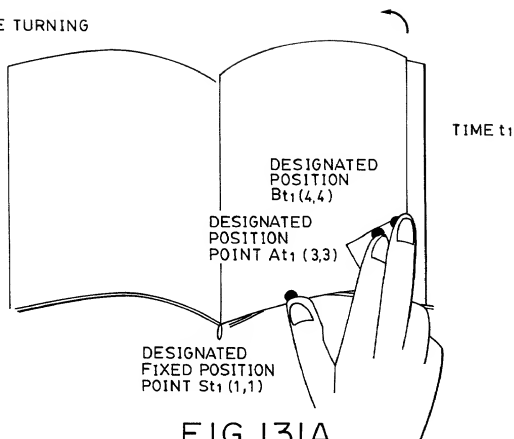


FIG. 13IA

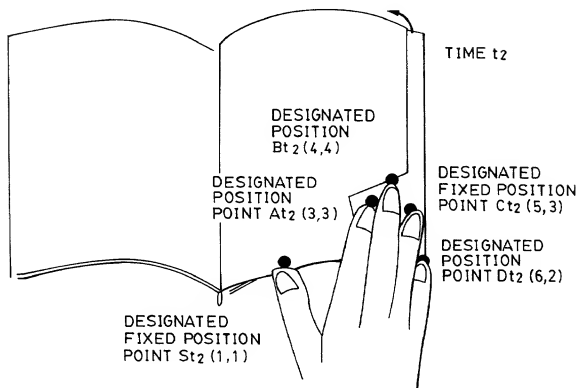


FIG. 13IB

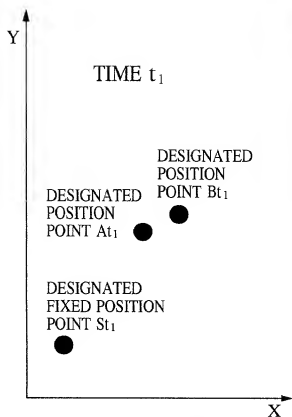


FIG. 132A

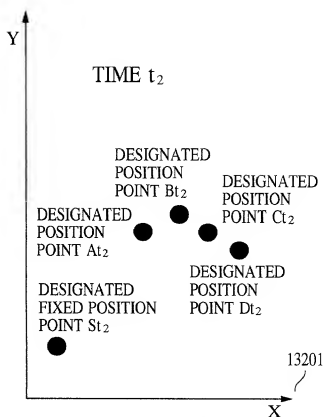


FIG. 132B

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT S

	$S_x$	$S_y$
$t_1$	1.0	1.0
$t_2$	1.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A

	$A_x$	$A_y$
$t_1$	3.0	3.0
$t_2$	3.0	3.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B

	$B_x$	$B_y$
$t_1$	4.0	4.0
$t_2$	4.0	4.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT C

	$C_x$	$C_y$
$t_1$		
$t_2$	5.0	3.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT D

	$D_x$	$D_y$
$t_1$		
$t_2$	6.0	2.0

FIG. 132C

FIG. 132D

FIG. 132E

FIG. 132F

FIG. 132G

DATA OF DESIGNATED POSITION COUNT

	INCREASE IN NUMBER	TOTAL NUMBER
$t_1$	2	3
$t_2$	2	5

FIG. 132H

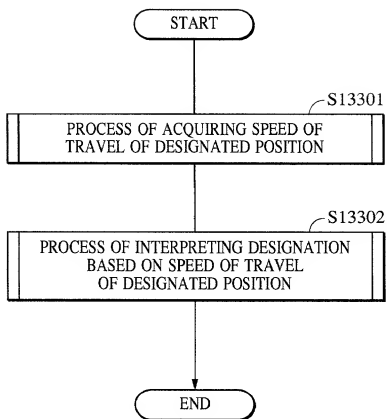


FIG. 133



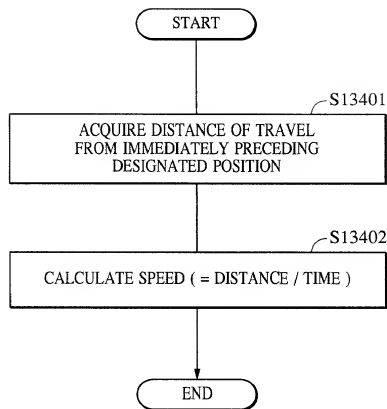


FIG. 134

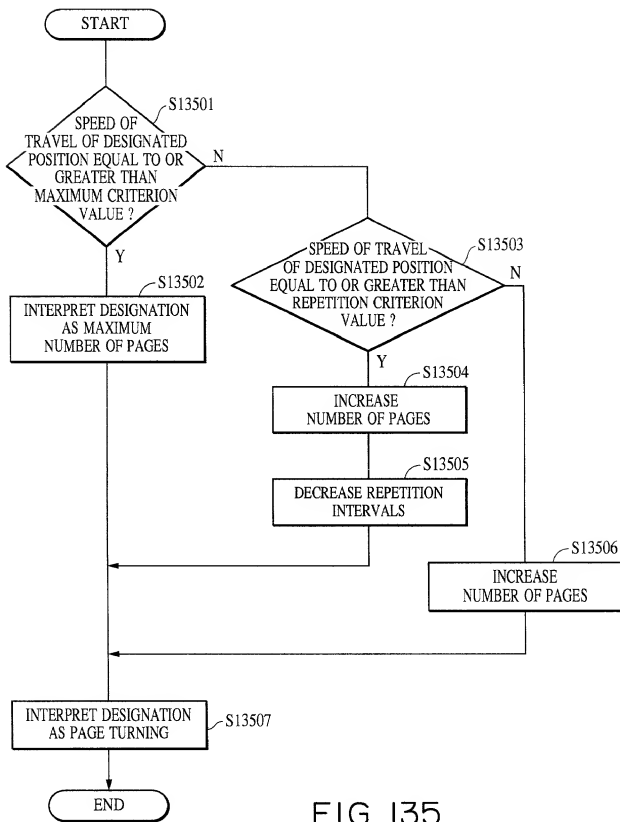
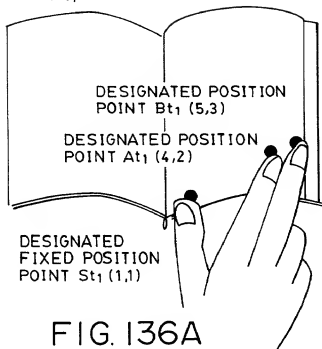


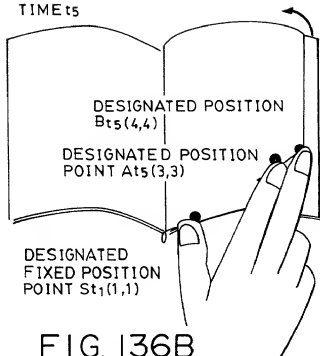
FIG. 135

# PAGE TURNING

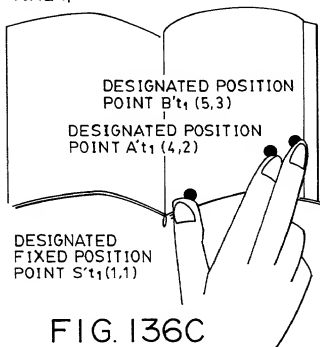
TIME  $t_1$



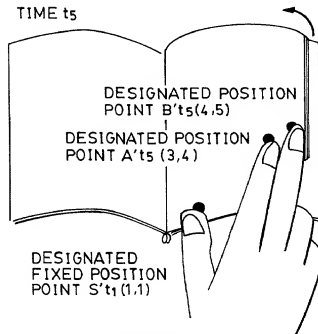
TIME  $t_5$



TIME  $t_1$



TIME  $t_5$



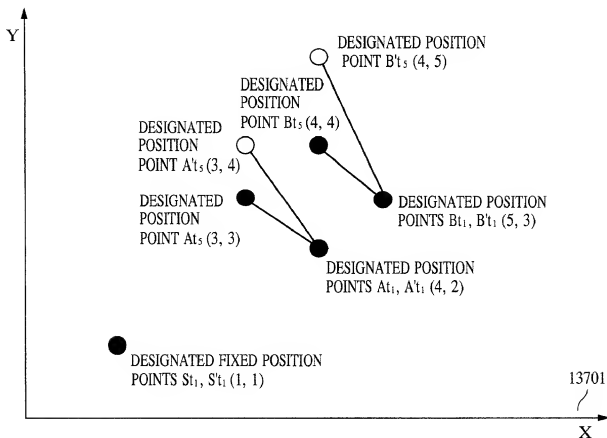


FIG. 137A

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT S

	S <sub>x</sub>	S <sub>y</sub>
t <sub>1</sub>	1.0	1.0
t <sub>2</sub>	1.0	1.0
t <sub>3</sub>	1.0	1.0
t <sub>4</sub>	1.0	1.0
t <sub>5</sub>	1.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	4.0	2.0
t <sub>2</sub>	3.8	2.2
t <sub>3</sub>	3.6	2.4
t <sub>4</sub>	3.4	2.6
t <sub>5</sub>	3.0	3.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	3.0
t <sub>2</sub>	4.8	3.2
t <sub>3</sub>	4.6	3.4
t <sub>4</sub>	4.4	3.6
t <sub>5</sub>	4.0	4.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A'

	A' <sub>x</sub>	A' <sub>y</sub>
t <sub>1</sub>	4.0	2.0
t <sub>2</sub>	3.8	2.4
t <sub>3</sub>	3.6	2.8
t <sub>4</sub>	3.4	3.2
t <sub>5</sub>	3.0	4.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B'

	B' <sub>x</sub>	B' <sub>y</sub>
t <sub>1</sub>	5.0	3.0
t <sub>2</sub>	4.8	3.4
t <sub>3</sub>	4.6	3.8
t <sub>4</sub>	4.4	4.2
t <sub>5</sub>	4.0	5.0

13702

FIG. 137B

FIG. 137C

FIG. 137D

FIG. 137E

FIG. 137F

DATA OF SPEED OF TRAVEL OF DESIGNATED POSITION

	SPEED OF POINT A	RATE OF INCREASE OF SPEED OF POINT A	SPEED OF POINT B	RATE OF INCREASE OF SPEED OF POINT B	SPEED OF POINT A'	RATE OF INCREASE OF SPEED OF POINT A'	SPEED OF POINT B'	RATE OF INCREASE OF SPEED OF POINT B'
t <sub>1</sub>	0.000		0.000	0.0	0.000		0.000	
t <sub>2</sub>	0.283		0.283		0.447		0.447	
t <sub>3</sub>	0.283	1.00	0.283	1.00	0.447	1.00	0.447	1.00
t <sub>4</sub>	0.283	1.00	0.283	1.00	0.447	1.00	0.447	1.00
t <sub>5</sub>	0.354	1.25	0.283	1.00	0.559	1.25	0.559	1.25

FIG. 137G

13703

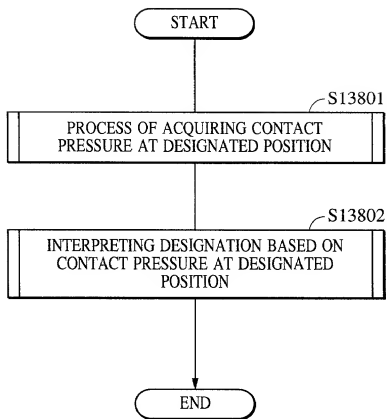


FIG. 138

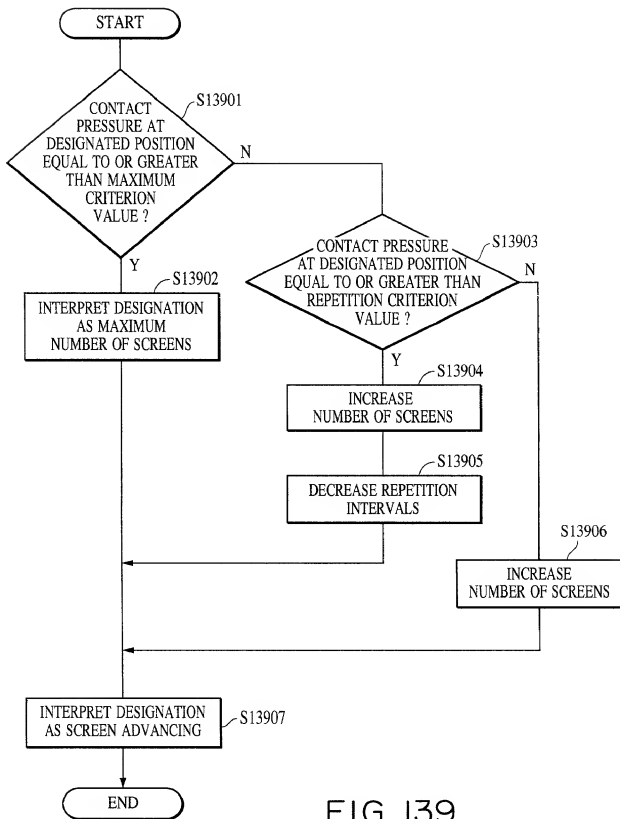


FIG. 139

# SCREEN SHIFTING

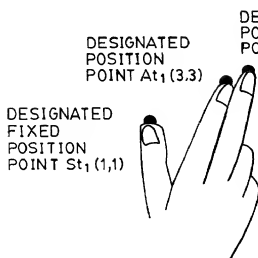


FIG. 140A

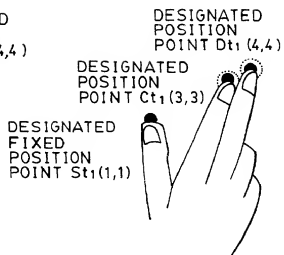


FIG. 140C

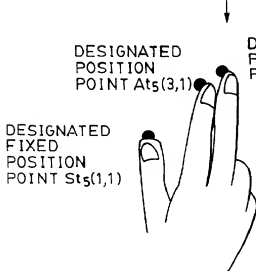


FIG. 140B

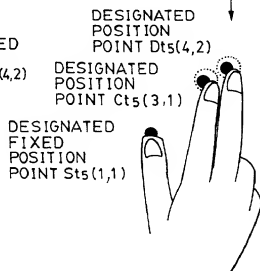


FIG. 140D



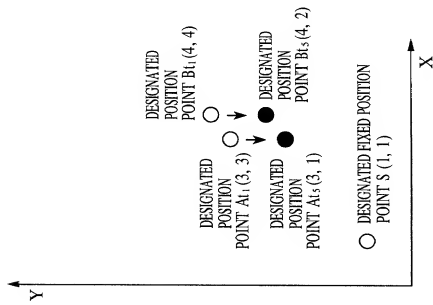


FIG. 141A

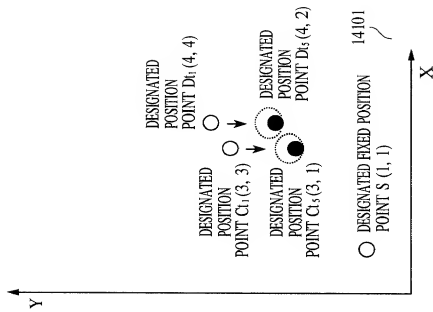


FIG. 141B

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT S

	S <sub>x</sub>	S <sub>y</sub>
t <sub>1</sub>	1.0	1.0
t <sub>2</sub>	1.0	1.0
t <sub>3</sub>	1.0	1.0
t <sub>4</sub>	1.0	1.0
t <sub>5</sub>	1.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	2.6
t <sub>3</sub>	3.0	2.2
t <sub>4</sub>	3.0	1.8
t <sub>5</sub>	3.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	4.0
t <sub>2</sub>	4.0	3.6
t <sub>3</sub>	4.0	3.2
t <sub>4</sub>	4.0	2.8
t <sub>5</sub>	4.0	2.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT C

	C <sub>x</sub>	C <sub>y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	2.6
t <sub>3</sub>	3.0	2.2
t <sub>4</sub>	3.0	1.8
t <sub>5</sub>	3.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT D

	D <sub>x</sub>	D <sub>y</sub>
t <sub>1</sub>	4.0	4.0
t <sub>2</sub>	4.0	3.6
t <sub>3</sub>	4.0	3.2
t <sub>4</sub>	4.0	2.8
t <sub>5</sub>	4.0	2.0

14102

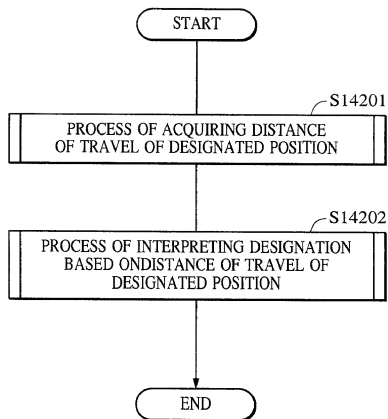
FIG. 14C FIG. 14D FIG. 14E FIG. 14F FIG. 14G

DATA OF CONTACT PRESSURE AT DESIGNATED POSITION

	CONTACT PRESSURE AT POINT S	CONTACT PRESSURE AT POINT A	CONTACT PRESSURE AT POINT B	CONTACT PRESSURE AT POINT C	CONTACT PRESSURE AT POINT D
t <sub>1</sub>	100	100	100	100	100
t <sub>2</sub>	105	105	105	140	140
t <sub>3</sub>	110	110	110	160	160
t <sub>4</sub>	105	105	105	190	190
t <sub>5</sub>	100	100	100	210	210

14103

FIG. 14H



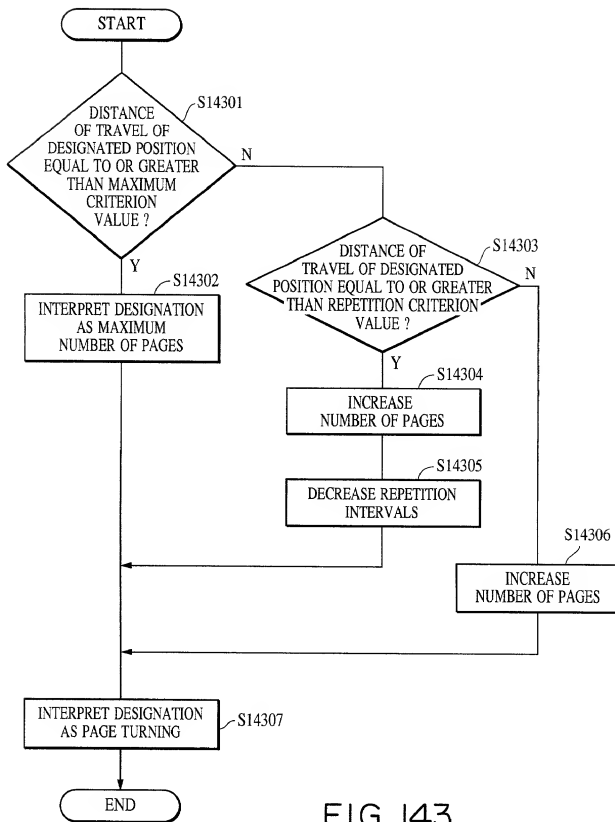
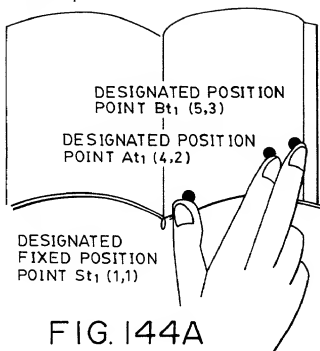


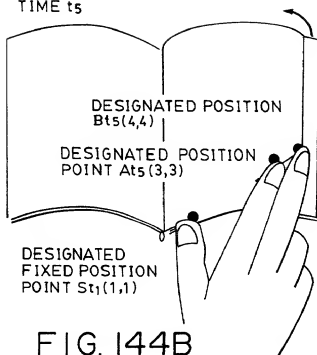
FIG. 143

# PAGE TURNING

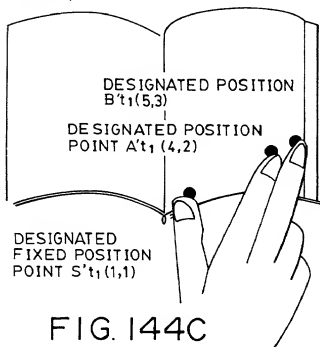
TIME  $t_1$



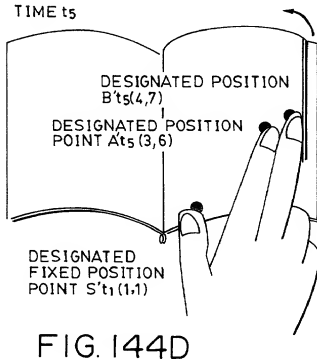
TIME  $t_5$



TIME  $t_1$



TIME  $t_5$



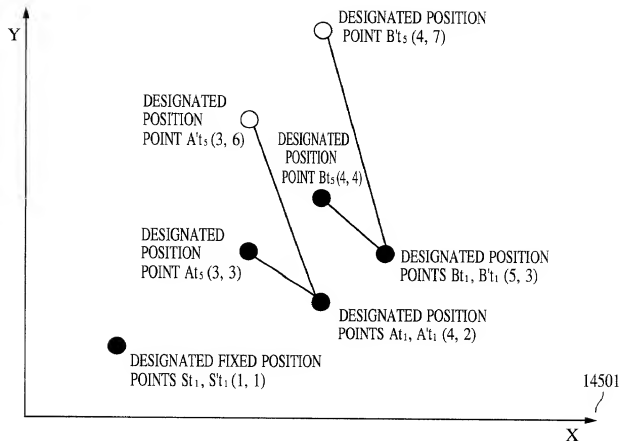


FIG. 145A

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT S

	S <sub>x</sub>	S <sub>y</sub>
t <sub>1</sub>	1.0	1.0
t <sub>2</sub>	1.0	1.0
t <sub>3</sub>	1.0	1.0
t <sub>4</sub>	1.0	1.0
t <sub>5</sub>	1.0	1.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	4.0	2.0
t <sub>2</sub>	3.8	2.2
t <sub>3</sub>	3.6	2.4
t <sub>4</sub>	3.4	2.6
t <sub>5</sub>	3.0	3.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	5.0	3.0
t <sub>2</sub>	4.8	3.2
t <sub>3</sub>	4.6	3.4
t <sub>4</sub>	4.4	3.6
t <sub>5</sub>	4.0	4.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT A'

	A' <sub>x</sub>	A' <sub>y</sub>
t <sub>1</sub>	4.0	2.0
t <sub>2</sub>	3.8	2.8
t <sub>3</sub>	3.6	3.6
t <sub>4</sub>	3.4	4.4
t <sub>5</sub>	3.0	6.0

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B'

	B' <sub>x</sub>	B' <sub>y</sub>
t <sub>1</sub>	5.0	3.0
t <sub>2</sub>	4.8	3.8
t <sub>3</sub>	4.6	4.6
t <sub>4</sub>	4.4	5.4
t <sub>5</sub>	4.0	7.0

14502

FIG. 145B FIG. 145C FIG. 145D FIG. 145E FIG. 145F

14503

DATA OF DISTANCE OF TRAVEL OF DESIGNATED POSITION

	TRAVEL OF POINT S	TRAVEL OF POINT A	TRAVEL OF POINT B	TRAVEL OF POINT A'	TRAVEL OF POINT B'
t <sub>1</sub>	0	0.000	0.000	0.000	0.000
t <sub>2</sub>	0	0.283	0.283	0.825	0.825
t <sub>3</sub>	0	0.566	0.566	1.649	1.649
t <sub>4</sub>	0	0.849	0.849	2.474	2.474
t <sub>5</sub>	0	1.414	1.131	4.123	4.123

FIG. 145G

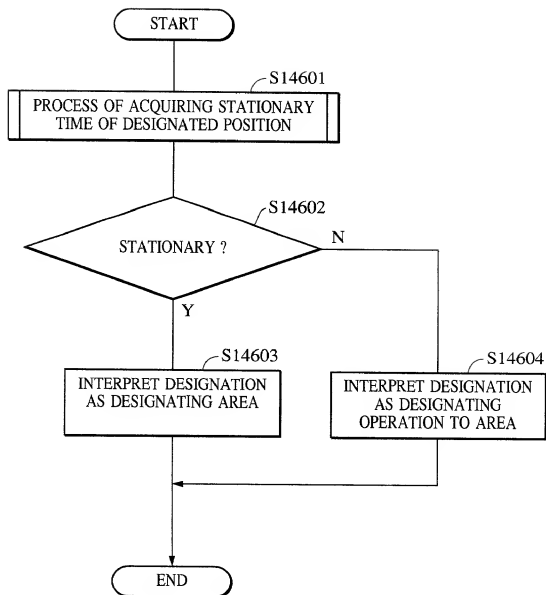


FIG. 146



DESIGNATING  
AREA

DESIGNATED  
POSITION  
POINT At<sub>1</sub>

DESIGNATED  
POSITION  
POINT Bt<sub>1</sub>

TIME t<sub>1</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of the text to be generated is selected from the input information and the retrieved information relating thereto. Subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, the output is generated on the basis of the selected elements of the text and the determined describing order.

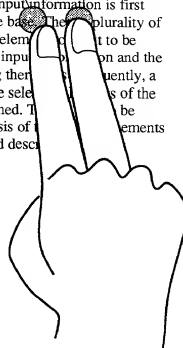


FIG. 147A

DESIGNATED  
POSITION  
POINT At<sub>5</sub>

DESIGNATED  
POSITION  
POINT Bt<sub>5</sub>

TIME t<sub>5</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of information used as elements of the text to be generated is selected from the input information and the retrieved information relating thereto. Subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, the output is generated on the basis of the selected elements of the text and the determined describing order.

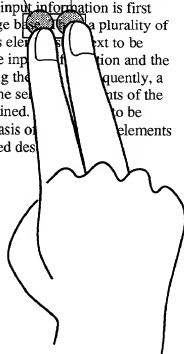


FIG. 147B

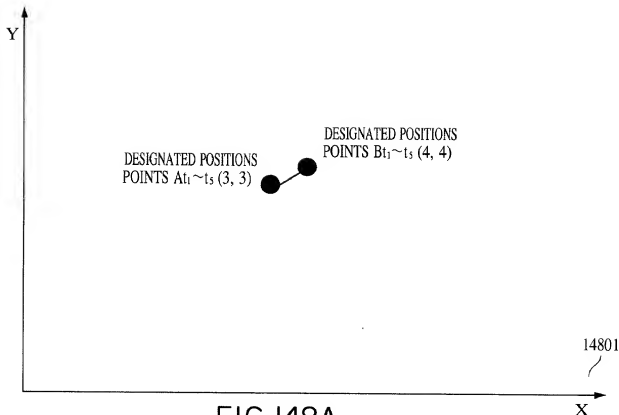


FIG. 148A

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT A

	$A_x$	$A_y$
$t_1$	3.0	3.0
$t_2$	3.0	3.0
$t_3$	3.0	3.0
$t_4$	3.0	3.0
$t_5$	3.0	3.0

FIG. 148B

DESIGNATED  
FIXED POSITION  
POSITION DATA  
OF POINT B

	$B_x$	$B_y$
$t_1$	4.0	4.0
$t_2$	4.0	4.0
$t_3$	4.0	4.0
$t_4$	4.0	4.0
$t_5$	4.0	4.0

FIG. 148C

DATA OF TRAVEL OF DESIGNATED POSITION

	TRAVEL OF POINT A	TRAVEL OF POINT B
$t_1$	0.000	0.000
$t_2$	0.000	0.000
$t_3$	0.000	0.000
$t_4$	0.000	0.000
$t_5$	0.000	0.000

FIG. 148D

TIME  $t_5$ 

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. The plurality of kinds of information used as elements of the text to be generated is selected from the input information and the retrieved information relating thereto. Subsequently, a describing order, in which the selected elements of the text are described, is determined. Then, the output is generated on the basis of the selected elements of the text and the determined describing order.

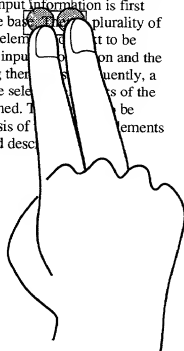


FIG. 149A

14901

DESIGNATED POSITION  
POINT Bt<sub>6</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first

TIME  $t_6$ 

retrieved from the knowledge base. Then, the plurality of kinds of information is selected to be generated is selected from the retrieved information relating to the describing order, in which the selected elements are described, is determined. Then, the generated on the basis of the selected elements and the determined describing order.

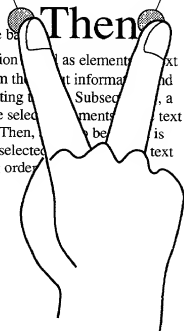


FIG. 149B

14902

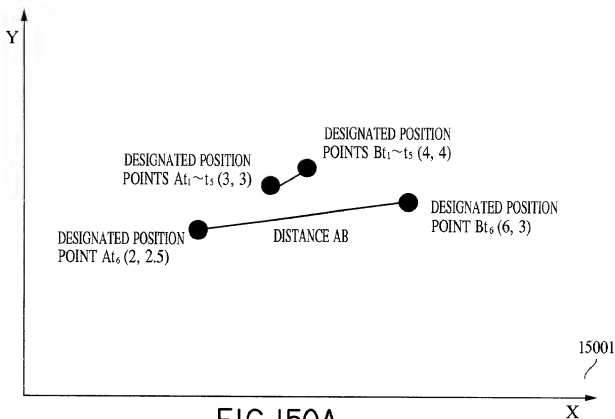


FIG. 150A

DESIGNATED  
MOVING POSITION  
POSITION DATA  
OF POINT A

	A <sub>x</sub>	A <sub>y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0
t <sub>4</sub>	3.0	3.0
t <sub>5</sub>	2.0	2.5

FIG. 150B

DESIGNATED  
POSITION  
POSITION DATA  
OF POINT B

	B <sub>x</sub>	B <sub>y</sub>
t <sub>1</sub>	4.0	4.0
t <sub>2</sub>	4.0	4.0
t <sub>3</sub>	4.0	4.0
t <sub>4</sub>	4.0	4.0
t <sub>5</sub>	6.0	3.0

FIG. 150C

DATA OF TRAVEL OF DESIGNATED POSITION

	TRAVEL OF POINT A	TRAVEL OF POINT B	DISTANCE AB	DISTANCE CHANGE RATE
t <sub>1</sub>	0.000	0.000	1.414	100%
t <sub>2</sub>	0.000	0.000	1.414	100%
t <sub>3</sub>	0.000	0.000	1.414	100%
t <sub>4</sub>	0.000	0.000	1.414	100%
t <sub>5</sub>	1.118	2.236	4.031	285%

FIG. 150D